

MTS#06-247043  
RECEIVED JAN 23 2006  
OC/WA via email

Adam Howell  
1208 Florida Rd. #A104  
Durango, CO 81301

Willa Adelman  
U.S. Army Corps of Engineers  
Albuquerque District  
Office of Council (FOIA)  
4101 Jefferson Plaza, NW  
Albuquerque, NM 87109  
(505) 342-3300 (phone)

Dennis Wallace  
U.S. Army Corps of Engineers  
Albuquerque District  
Office of Council (FOIA)  
4101 Jefferson Plaza, NW  
Albuquerque, NM 87109  
505-342-3303 (phone)  
Dennis.A.Wallace@usace.army.mil

Re: Freedom of Information Act Request concerning the wetlands delineation at the proposed Village at Wolf Creek

Dear Ms. Adelman and Mr. Wallace,

I am submitting this Freedom of Information Act (FOIA) request pursuant to the requirements of 5 U.S.C. § 552. I request that you reply via certified mail with a tracking number. Also, I request your written confirmation (preferably by e-mail) of the receipt of the email version of this request.

I seek records in relation to wetlands delineations related to the "Village at Wolf Creek" proposal in Southern Colorado that is the subject of a NEPA process led by the United States Forest Service. This request seeks records created after January 1, 2001 and before January 5, 2006.

My request asks for any and all agency records, including any in electronic form, which discuss, encourage, discourage, reference, analyze, evaluate, initiate and/or otherwise concern fens, wetlands, possible wetlands, and/or wetlands delineations related to the proposed "Village at Wolf Creek."

The following provides details of the category of records I seek:

- 1) All agency records related to any communications with person(s) performing wetlands work, delineations, etc.
  - a. any and all records regarding fens wetlands.
  - b. any and all records which discuss or estimate the temporary, seasonal, and/or permanent impacts of the Village at Wolf Creek on Wetlands.
  - c. any and all records that discuss water source(s) for the Village at Wolf Creek including, but not limited to water rights, etc.
- 2) Any and all communications with federal governmental entities regarding wetlands or wetlands delineations.
- 3) Any and all communications with non-federal government entities regarding wetlands or wetlands delineations including proponents of the Village at Wolf Creek including, but not limited to, Mr. Bob Honts, Mr. Red McCombs, and/or any agent, consultant, attorney, representative, lobbyist, etc for the Village at Wolf Creek.
- 4) Any and all communications with non-governmental entities regarding wetlands or wetlands delineations.
- 5) Any and all communications with the project proponents, agents, and/or consultants for any reason whatsoever since January 1, 2001.
- 6) Any and all communications with any elected or any other public official including but not limited to federal/state executive officers, congresspersons, senators, etc.

## **POTENTIALLY EXEMPT MATERIALS**

If you determine that portions of any records covered by this request are exempt from disclosure, please provide me with a specific description of the record or portion of the record along with a description for the legal basis for withholding it.

## **Fee Waiver**

I am requesting a fee waiver for the records I am requesting since I am a journalist, and the documents will be used to educate the public through newspaper article(s) or other publicly accessible news media owned by local businesses in Southwest Colorado. FOIA stipulates that agency records shall be provided without charge "if disclosure of the information is in the public interest because it is likely to contribute significantly to public understanding of the operations or activities of the government and is not primarily in the commercial interest of the requester."

Please classify me as a representative of the news media, as that term is used in 5 USC § 552 (a)(4)(A)(ii)(II). Freelance writers such as myself serve as an information clearinghouse for local newspapers seeking information on public land policies as they impact Colorado and the Southwest/Central portion of the state. See *National Security Archives v. US Department of Defense*, 880 F2D 1381, 1385 (D.C. Cir. 1989).

This request is submitted with the full expectation that such a waiver will be granted. If a waiver is not granted, please inform me of the cost of disclosing the above-described records if fees exceed \$50.00.

I look forward to your response within twenty (20) working days, as required by the FOIA. 5  
USC. §552(a)(6)(A)(i) and (a)(6)(C)(i).

If you have any questions regarding this request, please feel free to contact me at (970) 375-9718  
or [athowell@gmail.com](mailto:athowell@gmail.com).

Thank You,

Adam Howell

**Adelmann, Willa SPA**

IMTS #  
RECEIVED JAN 23 2006  
oc/wa

**From:** Wallace, Dennis A SPA  
**Sent:** Tuesday, January 24, 2006 6:09 AM  
**To:** Adelmann, Willa SPA  
**Subject:** FW: FOIA request

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**From:** Adam Howell [mailto:athowell@gmail.com]  
**Sent:** Monday, January 23, 2006 5:40 PM  
**To:** Wallace, Dennis A SPA  
**Subject:** FOIA request

Dennis,

Please review and forward the attached FOIA request to Willa Adelman.

Thank You,  
Adam Howell

2005 00624  
42900 5008



# THE DURANGO HERALD

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## Forest Service must release papers Documents may shed light on creation of Wolf Creek plan

January 18, 2006

By Jesse Harlan Alderman | *Herald Staff Writer*

A judge has ordered the U.S. Forest Service to come clean about accusations that attorneys for the controversial Village at Wolf Creek served as ghostwriters for federal policy.

In a ruling Tuesday, Magistrate Judge David L. West of the U.S. District Court in Durango gave the Forest Service three weeks to turn over any documents detailing communication between village developers and Forest Service officials.

In particular, he called on the agency to release documents that might shed light on a charge that an attorney for billionaire village developer Billie Joe "Red" McCombs drafted a letter later signed by lawyers for the U.S. Department of Agriculture. The USDA oversees the Forest Service.

The letter became a crucial component of the village's final building plans. Mineral County endorsed the plans in October 2004, but a district judge in Creede revoked the approval a year later.

West's ruling came as part of an ongoing case, Colorado Wild v. Clark. Durango-based environmental group, Colorado Wild, filed a motion to hold the Forest Service in contempt of court.

The group argued the Forest Service was not complying with West's order to release hundreds of documents requested under the Freedom of Information Act.

Colorado Wild sued the Forest Service in June, accusing the agency of stonewalling on three separate Freedom of Information Act requests filed since 2004.

In October, the agency turned over several boxes of letters, e-mails and other documents. But the agency's failure to provide a precise description of the search violated West's order, Travis Stills, an attorney for Colorado Wild, told the judge.

Stills said the Forest Service refused to detail what officials searched what offices and the methods used. As part of his ruling, Judge West granted the Forest Service two weeks to compile such a search record.

Without an inventory of the search, Stills said Colorado Wild cannot determine if the Forest Service is still withholding information, as ordered.

Even though the judge rejected the contempt motion, Jeff Berman, former executive director of Colorado Wild, hailed the ruling as a victory. Berman still works on the group's campaign to derail the Village at Wolf Creek.

"We got the substance of what we sought," he said. "The Forest Service was told to go back and search for more documents, with the judge implying that there are more documents."

Michael Johnson, a Denver-based attorney for the Forest Service, told West that additional documents tied to the charge of ghost-writing may not even exist.

He did not know if the agency would bar the release of the documents. Under certain exemptions, the Freedom of Information Act allows federal agencies to withhold documents.

"I couldn't dream of an exemption on that," Judge West shot back.

After the ruling, Johnson said the agency sufficiently looked for pertinent documents. He did not know if officials would search further to uncover documents relating collusion with village attorneys.

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"The law does not require exhaustive searches," he said. "The government does not have to search every file cabinet in every inch of every office. The standard is not perfection."

During the recent search, at least three Forest Service employees scoured USDA offices in Washington, D.C., the Forest Service's Rocky Mountain region office in Denver and Rio Grande National Forest offices in Monte Vista, Johnson said.

In the same ruling Tuesday, West denied a request from Colorado Wild to delay the Forest Service from issuing a pivotal decision that could pave the way for construction. The group argued that the court should bar any decision until the judge's orders are met.

Next month, forest supervisor Peter Clark will decide whether to grant developers approval to build an access road from U.S. Highway 160 across national forest land into the resort site.

The massive resort is proposed on 288 acres of private land in the middle of the Rio Grande and San Juan national forests. Building plans call for more than 2,000 homes, 250,000 square feet of commercial space and a luxury hotel on a parcel adjacent to the Wolf Creek Ski Area.

Developers cannot break ground until a road is approved.

When complete, the Freedom of Information request will reveal the cozy relationship between village president and McCombs' point-man Bob Honts and Forest Service officials, Berman said.

He has repeatedly accused developers of pressing high-level political connections to steer Forest Service policy.

But Honts scoffed at the notion of collusion.

"We've done nothing to twist their arms," he said. "I think the Forest Service should turn over everything. That's what the Freedom of Information Act is all about."

*jalderman@durangoherald.com*

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## **Manger, Jean E SPA**

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**From:** Culp, Anita E SPA  
**Sent:** Wednesday, January 18, 2006 2:47 PM  
**To:** Manger, Jean E SPA  
**Cc:** Robb, Diana M SPA; Culp, Anita E SPA  
**Subject:** FW: Wolf Creek Discussion with COE of 1/17

For filing in 2005 00624.

Anita Culp  
US Corps of Engineers  
Southern Colorado Regulatory Office  
720 N Main St, Ste 300  
Pueblo, CO 81003-3047  
719-543-6914  
anita.e.culp@usace.army.mil

-----Original Message-----

From: Claggett.Richard@epamail.epa.gov [mailto:Claggett.Richard@epamail.epa.gov]  
Sent: Tuesday, January 17, 2006 5:15 PM  
To: Dodson.Max@epamail.epa.gov; Lehnertz.Christine@epamail.epa.gov;  
Reetz.Gene@epamail.epa.gov; Culp, Anita E SPA; timony.t.carey@nwo02.usace.army.mil; Truan,  
Van A SPA; todd.a.wang.ltc@spa02.uscoe.army.mil  
Cc: Fowler.Sarah@epamail.epa.gov  
Subject: Wolf Creek Discussion with COE of 1/17

OK, I guess I was the dummy who took notes during the meeting so I get to write up what I thought I heard. The meeting was attended by the above EPA types plus Todd Wang, District Engineer from the COE in Albuquerque; Tim Carey, COE in Colorado; and Van Truan and Rudy Villareal from COE in Pueblo.

\* Max began the meeting by summarizing how he'd like to see us proceed: an onsite meeting this summer; agreed upon inventory of the Fens; and the need for site-wide hydrologic study to better evaluate potential impacts of wetlands resources.

\* Todd then suggested a MOU like (or could be less formal like an exchange of letters) agreement as to how the COE and EPA will proceed and communicate through this project with potential utility in other situations.

\* Regarding the on-site meeting, after considerable discussion, it was decided that EPA would approach the Mineral County Commissioners and ask about hosting a meeting this summer with COE, USFS, the applicant, Salazar's staff, etc. since the County would be brought in regarding needed building permits anyway. Representative Salazar is against the project mainly because of potential water quality and water rights impacts. Hopefully access won't be a problem but at least we could walk the surrounding Forest Service land and view the site.

\* Regarding delineation, Gene will check on the delineation maps for the Fen identification. Apparently A contractor did the delineation and Anita verified the information. Gene offered the use of Dr. David Cooper, a fen expert, to verify on-site as well. Van suggested it may be unlikely that the applicant can avoid impacts to the wetlands and thus, a permit may be required, but he would reserve judgement until the application comes in. Tim asked that if we agree on delineation and a Nationwide permit is used, how would EPA respond. Gene stated that we would need to look at compliance with the 404(b)(1) guidelines. Things like road crossings, etc., could be a problem. If the applicant says they wouldn't be discharging into a wetlands and would not require a permit, only a violation would then kick the COE back in the process.

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\* EPA expressed a desire for pre-application consultation, or compliance assistance for conversations with the project sponsor to avoid surprises down the road. We will explore that option.

\* There was general agreement that the hydrology connection was critical and the groundwater/surface water connection needs to be more clearly understood.

\* Regarding the MOU that Todd was suggesting, Todd says he will discuss this when he gets the new Regulatory Chief on board (which he hopes is next week sometime). he will also get with Anita to see what ideas she might have. We would like the MOU to address communication, dispute resolution, elevation, roles and responsibilities, etc. We all agreed by keeping an open dialog, we can avoid unnecessary delays.

\* Max concluded by stating this project is a good opportunity for collaboration. He talked about EPA Region 8's priority of the San Juans and the MOU that was developed with the State of Colorado to work in that area. of course, Wolf Creek is within that area. We will get Todd a copy of that MOU.

\* All agreed that we should talk again, perhaps at the next Wetlands Coordination meeting in May which Van will organize?

Please let me know if I missed any other major points or misrepresented our discussion. Thank you for your participation in a most beneficial meeting.

Op 5



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

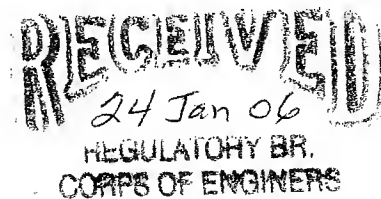
REGION 8  
999 18<sup>TH</sup> STREET - SUITE 300  
DENVER, CO 80202-2466  
Phone 800-227-8917  
<http://www.epa.gov/region08>

Ref: EPR-EP

January 17, 2006

Robert J. Dalrymple  
Forest Planner  
Rio Grande National Forest  
1803 West Highway 160  
Monte Vista, CO 81144

Lt. Colonel Todd Wang  
Albuquerque District, US Army Corps of Engineers  
4101 Jefferson Plaza, NE  
Albuquerque, New Mexico 87109



RE: Village at Wolf Creek Site Visits

Dear Mr. Dalrymple and Colonel Wang:

We are writing to summarize our observations, conclusions and recommendations based on our site visits to the proposed Village at Wolf Creek site during the summer of 2005. The Environmental Protection Agency (EPA), with permission from the landowner, reviewed the private parcel and proposed development plan -- as well as the adjacent ski area property -- to evaluate the potential for impacts to aquatic resources, including wetlands, resulting from the proposed development.

While we recognize that the development plans may change, the site review was critical for a better understanding of the landscape and the aquatic resources within the development parcel. Based on observed site characteristics and on proposed locations of buildings and infrastructure as depicted in the plans, we have the following observations and recommendations for your consideration in the NEPA and Clean Water Act (CWA) compliance processes:

- 1) **EPA has doubts that the development of this magnitude can proceed without a Section 404 permit.** EPA acknowledges the proponent's position regarding the need for a CWA Section 404 permit. However, based on years of experience with mountain resort and housing developments of this scale and on the best professional judgement of my staff, and given the amount and location of aquatic resources on site, it is highly unlikely that the proposed development could occur without discharges in waters of the United

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States. The road and infrastructure network crosses several streams and wetland areas and bridging of these aquatic resources without fill appears to be technically very challenging. The Village Sketch Plan in the Draft EIS includes approximately 40 lots that contain wetlands. We have not seen developments of this size and in proximity to this amount of wetland, which do not require CWA Section 404 permits for access or infrastructure construction. The lack of any preliminary engineering plans for wetland avoidance leads to further questions regarding the ability to avoid wetland fill.

- 2) EPA believes that the site conditions warrant a critical look at the site hydrology (ground and surface water) and at potentially significant adverse impacts to aquatic resources, including montane wetlands, fens and stream channels resulting from upland development adjacent to these ecosystems. The development site is centered on a large wetland basin. Most of the surrounding hillsides and mountainsides drain to this basin. The development plan proposes numerous structures on these surrounding slopes. Given the huge amount of snow this area receives, and given the small number and size of the stream channels, it appears that a significant amount of the snowmelt and precipitation that feeds these wetlands moves as ground water. To date, we do not have information on the location, depth or amount of groundwater moving on this site. However, we can predict that building foundations will intercept a significant amount of groundwater. Importantly, with a site this wet and a development this dense, there is no proven way to avoid impacts to groundwater with subsurface foundations, and therefore to the wetlands supported by that groundwater.

Even if the development moves ahead while successfully avoiding wetland fill and no CWA Section 404 permit is required, this development is likely to significantly reduce the amount and function of the wetlands on this site, and will likely degrade downstream aquatic ecosystems.

The groundwater that is intercepted by foundation drains will likely result in higher peak flow in receiving streams. This intercepted groundwater will need to be carefully controlled in order to avoid impacts to stream channels from increased flows. It is also likely that if less groundwater reaches the wetlands, streams leaving the project site will experience lower base flows after snowmelt. Lower flows can adversely affect aquatic life, can result in increased summer water temperature, and can reduce to capacity of a stream to dilute pollutants.

The site contains a number of fen wetlands. Fen wetlands are, by definition, groundwater driven in this alpine environment. We do not have any information on the source or pathway of groundwater to these unique and highly valued resources. Without such information, there is no way to predict the potential for impact to these fens, and therefore no way to assure avoidance of such impact. Importantly, if the ground water feeding a fen is interrupted, or the timing or amount of groundwater is altered, the fen can be significantly impaired or cease to function altogether.

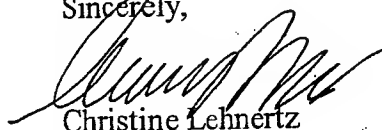
3) EPA recommends that a hydrologic study be designed and implemented on the entire parcel. This study is necessary to understand the groundwater flow system(s) that support the wetlands onsite. The study should be designed to collect appropriate data that can be analyzed to develop a sound conceptual understanding of the hydrologic system that supports the wetlands and streams in this high elevation site. Key types of data include:

- a. water level data collected with the use of pressure transducers from an array of nested piezometers - located within and around the wetlands, including the adjacent hill slopes, which should be collected on a frequent, regular schedule for one year
- b. stable and radioactive water isotopes data - 18 O, deuterium and tritium
- c. accurate land survey data - elevations
- d. solute chemistry data - selected ions
- e. stream flow data and wetland discharge flow data - collected on specified periods for one year
- f. geologic/soil data

These data would allow a hydrometrics and hydrogeologic approach to data analysis, which could be used to develop a sound conceptual model of the hydrologic system which supports the wetlands complexes and other on-site and off-site aquatic resources.

In conclusion, based on our site visit and other relevant information, EPA anticipates that a development of this magnitude in such a sensitive alpine environment poses significant challenges. We are very willing to work with your respective Agencies and the project proponent to address the concerns raised in this letter. Please feel free to contact me at 303-312-6649 or Dr. Gene Reetz (Wetlands Team Leader) at 303-312-6850 if you have any questions regarding this letter.

Sincerely,



Christine Lehnertz

Division Director

Ecosystems Protection Program

cc: Mineral County Commissioners  
Bob Honts, The Village at Wolf Creek



## LETTER OF TRANSMITTAL

**WESTERN  
ECOLOGICAL  
RESOURCE, INC.**

711 Walnut Street  
Boulder, Colorado 80302  
(303) 449-9009  
Fax (303) 449-9038  
mail@westerneco.com

**RECEIVED**  
18 Jan 06  
REGULATORY BR.  
CORPS OF ENGINEERS

TO: Jean Manger  
U.S. Army Corps of Engineers  
4101 Jefferson Plaza NE  
Albuquerque, NM 87109-3435

DATE: January 13, 2006  
PROJECT: Village at Wolf Creek  
COPIES: 1

FROM: David Johnson

DESCRIPTION: Wetland Delineation Report

FOR:

- ☐ Approval  
☐ Review  
☐ Your Files  
☒ As Requested

- ☐ Approved  
☐ Approved As Noted  
☐ Returned for Correction  
☐ Other:

COMMENTS:

2005 00624



MTS#

P.O. B.

**WOLF CREEK**

THE MOST SNOW IN COLORADO™

RECEIVED JAN 11 2005

OC/WA

P.O. B.  
Pagosa Springs, Colorado

Business Office: (970) 264-5639

Ski Report: 800-SKI-WOLF

FAX: (970) 264-5639

Date: December 16, 2005

To: Office of Counsel  
Department of the Army  
Albuquerque District, Corps of Engineers  
4101 Jefferson Plaza, NE  
Albuquerque, NM 87109

Attn: Dennis A. Wallace  
Freedom of Information Act Officer

VIA FACSIMILE: (505)342-3287

Dear Mr. Wallace:

Under the Freedom of Information Act, I am requesting that you mail to the address on the above letterhead copies of any and all correspondence between Anita Culp, Van Truan, Dan Malanchuk, and Colonel Wang regarding the Village at Wolf Creek, also any and all reports and maps regarding wetlands delineation for the Village at Wolf Creek from July 2005 to the present.

If there are any fees charged for searching or copying these records please supply the records without informing me of the cost if the fees do not exceed \$500.00, which I agree to pay upon receipt of statement. If it will cost more than \$500.00 for the copies, please inform me and I will increase this willingness to pay amount.

If you deny any part of this request, please cite each specific reason that you think justifies your refusal to release information. Please notify me of appeal procedures available under the law. If you have any questions processing this request, you may contact me at the following telephone number (970)264-4311.

Sincerely,

Natasha Myers  
Wolf Creek Ski Area Administration

2005 00624

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## CONVERSATION/MEETING RECORD

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Today's Date: January 6, 2006

[X] Telephone            [ ] Visit            [ ] Conference  
[X] Incoming            [ ] Outgoing            Location:

Name of Person Contacted or in Contact with You:

Mr. Jessie Alderman  
Durango Herald  
Durango, CO

Telephone: (970) 375-4575

Subject: 2005 00624, Village of Wolf Creek wetland delineation  
in tributaries of Pass Creek

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Date/Time of Conversation: 12 Dec 2005

### Summary:

I received a call from Alderman, a newspaper reporter. Bob Honts, Village of Wolf Creek developer, had published a news release about the 9 Dec 2005 Corps' approval of the wetland mapping. I answered questions about the wetland mapping approval process. I stressed that we had not received a development plan and could not make a decision whether 404 permit(s) would be needed until we received a plan. The wetland/stream mapping was the first step.

12/12/05 - I received a call from James Robinson, Pagosa Springs Sun newspaper, 970-264-2100. I answered questions same as above.

12/12/05 - I received an e-mail from Larry Winget, Alamosa Valley Courier newspaper, wingetlarry@yahoo.com, saying he would call me on 12/13/05. On 12/13/05, I received a telephone call and I answered questions same as above.

12/20/05 - I received a call from Adam Howell, an independent reporter for the Durango Telegraph, a weekly newspaper, 970-749-3478. I answered questions same as above. He asked about EPA's request to participate in the field verification. I explained that Dan Malanchuk, Regulatory Branch chief, had decided that the Corps would not treat this wetland delineation any different from any other delineation and declined EPA's offer. He asked if the consultant had made an honest effort in mapping. I agreed that they had and added that they had done a thorough effort. He asked about viewing the report. I said he could visit our Durango office and view the mapping and the report, but to obtain

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\* \* \*

CONVERSATION RECORD

\* \* \*  
\*\*\*\*\*

2005 00624

a copy he needed to go through the FOIA request process. The paper publishes to the web every Thursday at durangotelegraph.com.



Anita E. Culp  
Senior Project Manager

=====  
\* \* \* CONVERSATION RECORD \* \* \*  
=====

**Robb, Diana M SPA**

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From: Culp, Anita E SPA  
Sent: Tuesday, January 03, 2006 10:53 AM  
To: Robb, Diana M SPA  
Subject: FW: FOIA Requests - Villa at Wolf Creek



FollowUpRequest.M  
ely.pdf

For your files. Please note that each e-mail and attachment are different even though they are dated the same.

Anita Culp

-----Original Message-----

From: Mely Whiting [mailto:mely@westernresources.org]  
Sent: Thursday, December 29, 2005 4:25 PM  
To: Rayl, Sandy L SPA; Wallace, Dennis A SPA  
Cc: Wang, Todd A LTC SPA; Daniel. Malanchuck; Culp, Anita E SPA; Culp, Anita E SPA  
Subject: FOIA Requests - Villa at Wolf Creek

Good afternoon,

Enclosed please find a FOIA request on behalf of Colorado Wild. The request seeks records not previously provided by the U.S. Army Corps of Engineers in response of Colorado Wild's September 16, 2005 request.

Thank you for your prompt response in this matter.

Sincerely,

Amelia S. Whiting  
Western Resource Advocates  
720.470.4758

2005 00624



## WESTERN RESOURCE ADVOCATES

December 29, 2005

Dennis Wallace  
U.S. Army Corps of Engineers  
Albuquerque District  
Freedom of Information Act Officer  
4101 Jefferson Plaza, NE  
Albuquerque, NM 87109  
Dennis.A.Wallace@usace.army.mil

Sandra L. Rayl  
US Army Corps of Engineers  
Colorado Service Office  
P.O. Box 25105  
Denver, Colorado 80225  
(303) 232-3403 (phone)  
(303) 232-1799 (fax)  
sandy.l.rayl@usace.army.mil

**VIA E-MAIL ATTACHMENT – CONFIRMATION REQUESTED**  
**AND CERTIFIED MAIL-RETURN RECEIPT REQUESTED**

Re: FREEDOM OF INFORMATION ACT REQUEST:  
Wetlands Delineation at Proposed Village at Wolf Creek

Dear Mr. Wallace and Ms. Rayl:

On behalf of Colorado Wild ("Colorado Wild"), the undersigned hereby submits this Freedom of Information Act ("FOIA") request pursuant to the requirements of 5 U.S.C. §552. Colorado Wild requests your written confirmation (preferably by e-mail) of the receipt of the e-mail version of this request.

**Background**

On September 16, 2005, Mr. Travis E. Stills, Esq., submitted a FOIA request on behalf of Colorado Wild, requesting information in connection with the Village at Wolf Creek proposed development in Mineral County, Colorado. Mr. Stills received a response to his request from the

2005 00624

U.S. Army Corps of Engineers ("USACE") on September 27, 2005. However, the USACE's September 27, 2005 response is incomplete.

First, FOIA documents received from the U.S. EPA under a separate but identical request produced communications between the U.S. EPA and the USACE which were not included in the USACE's FOIA request. Second, Mr. Trevis' request to the Colorado Service Office was returned with a handwritten note stating: "No longer at this address Return to Sender." Third, the USACE's response includes exactly the same number of pages which the USACE's Durango Office notified Mr. Stills were available for review - which indicates that no additional pages of documents were provided by other USACE's offices. Finally, a review of the documents reveals a lack of communications to or from the Albuquerque District office on this project which would be most unusual in a project of this magnitude.

Before proceeding with appeals and litigation, Colorado Wild wishes to resubmit its September 16, 2005 FOIA request and ask, in good faith, that the USACE respond fully and completely to the request, including a certification that its response includes a documents from the USACE's Durango Office, Pueblo Office, Colorado Service Office, Albuquerque District Office, Washington D.C. Office, and any other USACE's office with information responsive to Colorado Wild' request.

#### Request Period

Colorado Wild seeks categories of records regarding wetlands delineations related to the "Village at Wolf Creek" proposal in Southwest Colorado. This request seeks records created after January 1, 2001 which were not previously provided by your responses to Colorado Wild's requests. Those responses are dated September 16, 2005 and April 16, 2004. This request includes records produced, created, developed, received, obtained or otherwise in the USACE's possession since Colorado Wild's last request as well as prior records which were not produced in response to Colorado Wild's requests.

#### Request

Colorado Wild hereby request any and all agency records (including any records/documents in electronic form) which discuss, encourage, discourage, reference, analyze, evaluate, initiate and/or otherwise concern fens, wetlands (both jurisdictional and non-jurisdictional), possible wetlands, and/or wetlands delineations related to the proposed "Village at Wolf Creek."

The following is offered as a way of example of records requested but should not be interpreted to limit the request to only these more specifically identified records:

- 1) All records regarding the need to conduct a wetlands delineation, created or obtained since January 1, 2001.
- 2) All agency records that carry out or document wetlands delineations carried out since January 1, 2001.

3) All agency records related to the following:

- a. Any and all records which discuss the Village at Wolf Creek and in particular wetlands;
- b. Any and all records which discuss or identify person(s) performing wetlands work, delineation, etc.;
- c. Any and all communications with person(s) performing wetlands work, delineation, etc.;
- d. Any and all records which specify dates during which wetlands work, delineation, etc. was performed;
- e. Any and all records which provide ecological zones, elevation, geographic/topographic features, hydrologic conditions, etc. of the Village at Wolf Creek property and/or adjacent Forest Service and private lands;
- f. Maps and any and all records that describe the location of wetlands;
- g. Any and all records that discuss and/or provide wetlands classification/types, etc.;
- h. Any and all records that discuss vegetation;
- i. Any and all records regarding fens;
- j. Any and all records which discuss hydrologic conditions including, but not limited to, flow conditions, soils, function/value of wetlands;
- k. Any and all records which discuss and/or determine the jurisdictional status of wetlands and basis for such determinations;
- l. Any and all records that describes wetlands measurements on the ground (e.g., GPS, survey of pin flags, etc.);
- m. Any and all records which discuss or estimate the temporary, seasonal, and/or permanent impacts of the Village at Wolf Creek on wetlands;
- n. Any and all records which discuss mitigation, mitigation measures/techniques, etc.;
- o. Any and all records that discuss permitting (including but not limited to section 404 permit type (i.e., individual, nationwide, etc.)) and the number of permits required;
- p. Any and all records that discuss water source(s) for the Village at Wolf Creek including, but not limited to water rights, etc.;

- q. Any and all records that discuss water quality issues related to the Village at Wolf Creek (e.g., increased roadway runoff, increased traction sand) and how those issues will be addressed; and
  - r. Any and all records that discuss impacts to aquatic species and/or their habitat including but not limited to discussion of Rio Grande Cutthroat Trout;
- 4) Any and all records which discuss any work conducted on site, including but not limited to bore holes, and wetland impacts incurred;
  - 5) Any and all records which discuss 404 permitting and any amendments to those permits;
  - 6) Any and all records which discuss or reference prior wetland findings and any amendments to those findings;
  - 7) Any and all communications with federal governmental entities regarding wetlands or wetlands delineations;
  - 8) Any and all communications with non-federal government entities regarding wetlands or wetlands delineations including proponents of the Village at Wolf Creek including, but not limited to, Mr. Bob Honts, Mr. Red McCombs, and/or any agent, consultant, attorney, representative, lobbyist, etc for the Village at Wolf Creek;
  - 9) Any and all communications with non-governmental entities regarding wetlands or wetlands delineations;
  - 10) Any and all communications with the project proponents, agents, and/or consultants for any reason whatsoever since January 1, 2001;
  - 11) Any and all communications with any elected or any other public official including but not limited to federal/state executive officers, congresspersons, senators, etc.

To aid Colorado Wild's use and understanding of the materials being requested, Colorado Wild requests that the USACE provide an index (preferably chronological) that briefly identifies the materials being provided.

#### Potentially Exempt Materials

If you determine that portions of any records covered by this request are exempt from disclosure, please separate the exempt portions from the nonexempt portions and provide copies of the nonexempt portions. For any records that you determine to be exempt from release, please provide us with a specific description of the record or portion of the record along with a particularized description of the legal basis for withholding it. See, *Vaughn v. Rosen*, 484 F.2d 820, 827 (D.C. Cir. 1973), cert. denied, 415 U.S. 977 (1974).



Colorado Wild recognizes that the agency may invoke the deliberative process exemption (Exemption 5) as a basis for withholding certain records. The Supreme Court recently stated:

Exemption 5 protects from disclosure "inter-agency or intra-agency memorandums or letters which would not be available by law to a party other than an agency in litigation with the agency." 5 U. S. C. §552(b)(5). To qualify, a document must thus satisfy two conditions: its source must be a Government agency, and it must fall within the ambit of a privilege against discovery under judicial standards that would govern litigation against the agency that holds it.

Department of Interior v. Klamath Water Users Protective Association, 121 S. Ct. 1060, 1065 (2001).

To qualify for protection under Exemption 5, the first condition a record must satisfy is that "its source must be a Government agency." Klamath Water Users Protective Association, 121 S. Ct. 1060, 1065 (2001). In this context, the term "Government" means "Government of the United States." 5 U.S.C. § 551(1)(defining "agency" as "each authority of the Government of the United States").

The second requirement is that the records would be protected from disclosure by a legal privilege. Those privileges include the privilege for attorney work product and the so-called "deliberative process" privilege, which covers records reflecting advisory opinions, recommendations, and deliberations that are part of a process by which Government decisions and policies are formulated. NLRB v. Sears, Roebuck & Co., 421 U. S. 132, 150 (1975). The point of Exemption 5 is not to protect Government secrecy pure and simple, and the Exemption's first condition is no less important than the second; the communication must be "inter-agency or intra-agency," 5 U. S. C. §552(b)(5).

The purpose of this privilege is to "allow agencies freely to explore possibilities engage in internal debates, or play devil's advocate without fear of public scrutiny." Assembly of the State of California v. United States Department of Commerce, 968 F.2d 916, 920 (9th Cir. 1992).

In order for the privilege to apply, the document must be both "predecisional" and "deliberative." NLRB v. Sears, 421 U.S. at 150-54. A "predecisional" document is one "prepared in order to assist the agency decisionmaker in arriving at his decision." Renegotiation Board v. Grumman Aircraft Eng'g Corp., 421 U.S. 168, 184 (1975). A document is "deliberative" if it "exposes the mental processes of decision-makers." Dudman Communications Corp. v. Department of Air Force, 815 F.2d 1568 (D.C. Cir. 1987).

As a result, "communications containing purely factual material are not typically within the purview of Exemption 5." Julian v. Department of Justice, 806 F.2d 1411 (9th Cir. 1986), *aff'd*, 486 U.S. 1 (1988).

Colorado Wild anticipates that exemption 5 will apply to few, if any, records responsive to this request, if any at all. However, if the COE feels portions of the requested information deal with the pre-decisional "mental-processes" of the agency regarding the proposed "Village at Wolf

Creek," the agency should attempt to redact any non-factual portions of the information requested above. In so doing, Colorado Wild requests that the agency provide a detailed summary and explanation of its redactions.

Additionally, the requested information, on the whole, does not fall within the ambit of FOIA Exemption 6 which deals with "personnel and medical files and similar files." 5 U.S.C. §552(b)(6). Obtaining knowledge about federal action and involvement in the proposed Village at Wolf Creek is clearly within the public interest. However, if the COE feels portions of such records (such as addresses and personal information of individuals) fall within this exemption, the agency should redact any portions of the information requested above. In so doing, Colorado Wild requests that the agency provide a detailed summary and explanation of its redactions.

#### Fee Waiver

Pursuant to 5 U.S.C. §552(a)(4)(A)(iii), Colorado Wild is requesting a fee waiver for the records they are requesting. Colorado Wild is a non-profit membership organization incorporated in the State of Colorado. Colorado Wild advocates for the protection of wildlife, water and the public land in and around the Rio Grand National Forest and are heavily involved in informing its members, the public, the press, local governments, and other organizations regarding the proposed "Village at Wolf Creek."

The information requested concerns the operation and activities of the USACE, an agency of the federal government. FOIA provides that agency records shall be provided without charge "if disclosure of the information is in the public interest because it is likely to contribute significantly to public understanding of the operations or activities of the government and is not primarily in the commercial interest of the requester." 5 U.S.C. 552(a) (4) (A) (iii).

This fee waiver provision was adopted to facilitate access to agency records by citizen "watchdog" organizations such as Colorado Wild. See, *Better Gov't Ass'n v. Department of State*, 780 F.2d 86, 88-89 (D.C. Cir.1987). For this reason, Congress intended that the provision be liberally construed in favor of waivers for noncommercial requesters. *McClellan Ecological Seepage Situation v. Carlucci*, 835 F.2d 1282, 1284 (9th Cir. 1987).

Colorado Wild is statewide non-profit conservation organizations dedicated to protecting, preserving, and restoring native plant and animal communities, and the biological diversity, of the Southern Rocky Mountains. Colorado Wild and its supporters have a long standing interest in the management of wildlife habitat in Colorado, including lands surrounding the proposed Village at Wolf Creek parcel.

Release of the records described in this request will primarily benefit the public and substantially contribute to its understanding of the government's policies and activities concerning management of public lands, wetlands, wildlife habitat, as well as policies concerning public recreation and environmental protection. Colorado Wild makes information concerning forest and wetlands management available to its members and members of the public through publications, public meetings, electronic and printed action alerts, press releases, phone calls, administrative appeals, and litigation, among other means. Through public comment, preparation

of action alerts, press releases, public meetings, and other means, Colorado Wild will make the information obtained from this request available to its supporters and other groups.

Release of the information will empower supporters of Colorado Wild and members of the public to engage in public advocacy efforts to protect and conserve the resources of the forested high country of Colorado, and the wildlife species found there. Colorado Wild does not seek these records for commercial use.

Moreover, given the nature of the records, Colorado Wild will be reviewing the information requested intensively and extensively, and sharing such records with other citizens, community members, and local governments. Release of the records described in this FOIA request will therefore primarily benefit the public and substantially contribute to its understanding of the government's policies and activities concerning ski areas generally and the proposed "Village at Wolf Creek" in particular.

Summaries of newsworthy portions of the records will be made available to local Colorado media and will be disseminated via meeting, email, and internet website. No commercial gain will accrue to the Colorado Wild or any other group or individual to whom such material will be distributed as a result of this request. Again, Colorado Wild is a non-profit, public interest education and advocacy organization. Colorado does not intend to use these records in any way for commercial gain.

If, for some reason, you should deny Colorado's request for a fee waiver, you should classify the organizations as representatives of the news media, as that term is used in 5 USC § 552 (a)(4)(A)(ii)(II). Colorado Wild serves as an information clearinghouse for individuals, media outlets, and organizations seeking information on public land policies as they impact the Colorado and the region. Information will be distributed through periodic bulletins, web sites, press events, slide shows and tabling at fairs and other public events. Therefore, Colorado Wild and San Juan Citizen Alliance are representatives of the news media. See, *National Security Archives v. US Department of Defense*, 880 F2d 1381, 1385 (D.C. Cir. 1989).

This request is submitted with the full expectation that such a waiver will be granted. However, if a waiver is not granted, please inform the undersigned of the cost of disclosing the above-described records if fees exceed \$50.00.

I look forward to your response within twenty (20) working days, as required by the FOIA. U.S.C. §§552(a)(6)(B) and (a)(6)(C)(i). If a response is not received within twenty (20) working days, this request will be deemed denied.

If you have any comments or questions regarding this request, please do not hesitate to contact me at 720-470-4758 or [mely@westernresources.org](mailto:mely@westernresources.org).

Respectfully submitted on behalf of the Colorado Wild,

/s/Amelia S. Whiting  
Amelia S. Whiting  
Western Resource Advocates  
Attorney for Colorado Wild

cc: David Malunchuk, Albuquerque Office  
Lt. Colonel Todd A. Wang, Albuquerque Office  
Anita Culp, Pueblo office



## WESTERN RESOURCE ADVOCATES

December 29, 2005

Dennis Wallace  
U.S. Army Corps of Engineers  
Albuquerque District  
Freedom of Information Act Officer  
4101 Jefferson Plaza, NE  
Albuquerque, NM 87109  
Dennis.A.Wallace@usace.army.mil

Sandra L. Rayl  
US Army Corps of Engineers  
Colorado Service Office  
P.O. Box 25105  
Denver, Colorado 80225  
(303) 232-3403 (phone)  
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sandy.l.rayl@usace.army.mil

**VIA E-MAIL ATTACHMENT – CONFIRMATION REQUESTED**  
**AND CERTIFIED MAIL-RETURN RECEIPT REQUESTED**

Re: FREEDOM OF INFORMATION ACT REQUEST:  
Wetlands Delineation at Proposed Village at Wolf Creek

Dear Mr. Wallace and Ms. Rayl,

On behalf of Colorado Wild, the undersigned hereby submits this Freedom of Information Act ("FOIA") request pursuant to the requirements of 5 U.S.C. §552. Colorado Wild requests your written confirmation (preferably by e-mail) of the receipt of the e-mail version of this request.

**RESPONSES FROM ALL USACE OFFICES WITH PERTINENT MATERIALS ARE REQUESTED INCLUDING, WITHOUT LIMITATION, RESPONSES FROM THE DURANGO OFFICE, THE COLORADO SERVICE OFFICE, THE ALBUQUERQUE DISTRICT OFFICE, AND WASHINGTON, D.C. PLEASE CERTIFY IN YOUR RESPONSE THAT A SEARCH TO RESPOND TO THIS REQUEST HAS BEEN CONDUCTED WITHIN EACH OF THESE OFFICES.**

2005 00624

### Request

Colorado Wild hereby requests any and all agency records (including without limitation any records/documents in electronic form) which discuss, reference, analyze, evaluate, initiate and/or otherwise relate to or concern (1) the delineation of wetlands within the area proposed for development by the Village at Wolf Creek in Mineral County, Colorado and completed in 2005 ("project area"); and (2) the U.S. States Army Corps of Engineers ("USACE") jurisdictional determination of waters of the United States, dated December 5, 2005, for the Village at Wolf Creek project (Action No. 2005 00624, Albuquerque District).

### Examples of Requested Records

The following is offered as a way of example of records requested but should not be interpreted to limit the request to only these more specifically identified records:

- 1) The USACE's December 5, 2005 jurisdictional determination.
- 2) All draft and final documents, records, information, data and communications used or relied upon by the USACE to support its December 5, 2005 jurisdictional determination.
- 3) All draft and final documents, records, information, data and communications used or relied upon by the USACE to support its December 5, 2005 determination that specific wetlands within the project area are non-jurisdictional.
- 4) All draft and final maps identifying wetlands within the Village at Wolf Creek project area as of December 31, 2005.
- 5) All draft and final reports (including, without limitation, all wetlands delineation reports, maps, work sheets and other attachments, GPS, survey of pin flags, etc.) prepared by or on behalf of the project proponent in connection with the 2005 project area wetlands delineation or the USACE's December 5, 2005 jurisdictional determination.
- 6) All data (including, without limitation, raw data) pertaining to the 2005 project area wetlands delineation including, without limitation, all data provided by or on behalf of the project proponent in connection with the 2005 project area wetlands delineation or the USACE's December 5, 2005 jurisdictional determination.
- 7) All records that discuss, evaluate, analyze, criticize, or review the 2005 project area wetlands delineation or the USACE's December 5, 2005 jurisdictional determination, whether in draft or final form.
- 8) All records of communications (including, without limitation, e-mails and phone logs) in connection with the 2005 project area delineation and the USACE's December 5, 2005 jurisdictional determination including, without limitation:

- a. Communications between the USACE and the project proponent, its employees, agents, consultants, attorney, representative, or lobbyists;
  - b. Communications from the project proponent, its agents, employees, or consultants, attorney, representative, or lobbyists to any elected or any other public official including but not limited to federal, state, or local executive officers, congresspersons, senators, etc.;
  - c. Communications from any elected or any other public official including, but not limited to, federal, state or local executive officers, congresspersons, senators, etc. with the project proponents, its agents, employees, or consultants, attorney, representative, or lobbyists;
  - d. Communications from the project proponent, its agents, employees, or consultants, attorney, representative, or lobbyists, with any federal, state, or local agency, or any other governmental or non-governmental entity, or individual;
  - e. Communications within the USACE;
  - f. Communications between the USACE and any other federal, state, or local agency, any other governmental or non-governmental entity, or individual.
- 9) All records regarding the need to conduct a wetlands delineation since January 1, 2001.
  - 10) All records that carry out or document wetlands delineations carried out since January 1, 2001.
  - 11) All records which discuss and/or determine the jurisdictional status of wetlands and basis for such determinations.
  - 12) All records that describe wetlands measurements on the ground within the project area since 2001.
  - 13) All records which discuss mitigation, mitigation measures/techniques, etc.
  - 14) All records that discuss permitting (including but not limited to section 404 permit type (i.e., individual, nationwide, etc.)) and the number of permits required;
  - 15) All records which discuss any work conducted within the project area including, without limitation, bore holes; and wetland impacts incurred.

#### Index Request

To aid Colorado Wild's use and understanding of the materials being requested, Colorado Wild requests that the USACE provide an index (preferably chronological) that briefly identifies the materials being provided.

### Potentially Exempt Materials

If you determine that portions of any records covered by this request are exempt from disclosure, please separate the exempt portions from the nonexempt portions and provide copies of the nonexempt portions. For any records that you determine to be exempt from release, please provide us with a specific description of the record or portion of the record along with a particularized description of the legal basis for withholding it. See, *Vaughn v. Rosen*, 484 F.2d 820, 827 (D.C. Cir. 1973), cert. denied, 415 U.S. 977 (1974).

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This fee waiver provision was adopted to facilitate access to agency records by citizen "watchdog" organizations such as Colorado Wild. See, *Better Gov't Ass'n v. Department of State*, 780 F.2d 86, 88-89 (D.C. Cir.1987). For this reason, Congress intended that the provision be liberally construed in favor of waivers for noncommercial requesters. *McClellan Ecological Seepage Situation v. Carlucci*, 835 F.2d 1282, 1284 (9th Cir. 1987).

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days, this request will be deemed denied.

If you have any comments or questions regarding this request, please do not hesitate to contact  
me at 720-470-4758 or [mely@westernresources.org](mailto:mely@westernresources.org).

Respectfully submitted on behalf of Colorado Wild,

/s/Amelia S. Whiting  
Amelia S. Whiting  
Western Resource Advocates  
Attorney for Colorado Wild

cc: David Malunchuk, Albuquerque Office  
Lt. Colonel Todd A. Wang, Albuquerque Office  
Anita Culp, Pueblo office

## CoverStory

### Wetlands heat up Wolf Creek debate

Agencies clash over mapping of 'old-growth' fens



Skiers and snowboarders meander through the base area of Wolf Creek on Monday. The Village at Wolf Creek, proposed not far from the current base area, is continuing to stir up controversy. The Army Corps of Engineers and the Environmental Protection agency are currently at odds over wetlands regulation./Photo by Todd Newcomer.

by Adam Howell

Wetlands are currently boiling with controversy in the vicinity of Wolf Creek Ski Area.

According to recently obtained e-mails, two agencies are throwing jabs in a recent bout over the regulation of wetlands as they relate to the proposed Village at Wolf Creek. According to the exchange, the Army Corps of Engineers' Albuquerque District has prevented the Environmental Protection Agency from verifying the locations of wetlands at the site of the proposed developed.

Courtesy of the Freedom of Information Act (FOIA), several work-related e-mails were recently acquired from the EPA regarding the proposed "Village," which would include 2,172 new units and 222,100 square feet of commercial space on 287.5 acres near the base of the current Wolf Creek Ski Area. Proposing the development is the Leavell-McCombs Joint Venture funded by Texas billionaire Billie Joe "Red" McCombs, co-founder of Clear Channel Communications Inc. Unaffiliated with the family-run Wolf Creek Ski Area, McCombs and his venture partner Bob Honts, a Texas-based developer, want to build what opponents call a "Vail-sized city" within the property boundaries of the current ski area at the base of the Alberta lift.

2005 00621

As part of the development process, the Army Corps was reviewing a map prepared by the developer's consultants. Such delineations are done to outline the boundaries of and prevent impacts to wetlands. In the case of the Wolf Creek wetlands, the Army Corps had previously accepted a request from the Environmental Protection Agency to participate in the field verification of the wetlands boundaries. As a result, Project Manager Anita Culp of the Corps' Southern Colorado Regulatory Office offered the EPA dates in September for when the two agencies could work together on the project. But shortly thereafter, her boss, Dan Malanchuk, chief of the Corps' Albuquerque District, refused to clear it and ordered her to block the EPA's request to review their wetlands delineations.

At that time, Culp called Gene Reetz, the EPA's wetlands team leader, saying that their original offer was "off the table," according to the emails. Furthermore, since the EPA does only a couple delineations per year, it would be inappropriate for them to get involved, Malanchuk said in a recent interview.

Reetz responded to the turn-down the next day in a letter to Malanchuk, writing, "To say that I am disappointed is to put it mildly." Given the controversy surrounding the proposed "Village," Reetz said he desired a more cooperative effort; at the same time, he did not leave out legal action as a possibility. He also cited a 1979 legal precedent under former U.S. Attorney General Benjamin Civiletti that gives the EPA jurisdiction under the Clean Water Act to make the final determination as to what constitutes "waters of the United States."

Although the Army Corps implements the delineation program, the EPA has enforcement authority and can veto permits authorizing the discharge of dredged or fill materials within waters of the U.S. in "special cases," Reetz said.

Plus, the Corps' exclusion of the EPA comes amid their shared responsibilities to implement the Clean Water Act. In the Corps' Regulatory Program Mission Statement, it avows, "During the permit process, the Corps considers the views of other federal, state and local agencies, interest groups, and the general public."

For the Corps to exclude the EPA suggests that political meddling is occurring, says Jeff Berman, director of the Friends of Wolf Creek. Especially disconcerting to Berman is that a FOIA request to the Corps' Albuquerque District has received no response. "They should tell us if Red McCombs and their attorneys in Washington, D.C. are pulling strings," he said.

Meanwhile, the Rio Grande National Forest continues to write the final Environmental Impact Statement (EIS) for the Village at Wolf Creek. As the process unfolds, the development proposal continues to generate opposition.

Spearheading opposition to the development, the Friends of Wolf Creek includes representation from a variety of conservation groups like Colorado Wild, the American Lands Alliance, the Colorado Mountain Club, San Juan Citizens Alliance and the Wilderness Society. In addition, the owners of the Wolf Creek Ski Corp. and Congressman John Salazar have gone on the record, opposing the development.



A full parking lot sits above the proposed site for the Village at Wolf Creek. Opponents of the massive development suspect political leverage is responsible for the current wetlands impasse./Photo by Todd Newcomer.

This opposition coincides with the "significant likelihood of direct, indirect and cumulative adverse impacts to wetlands that could result from the proposal," as the EPA warned in response to the Rio Grande National Forest's Draft EIS.

Specifically, the EPA has serious concerns about the protection of fen wetlands at Wolf Creek. Considered old-growth wetland ecosystems, fens are irreplaceable habitats, according to the EPA. As groundwater driven systems dependent on a seasonally stable water supply, fens are particularly susceptible to groundwater interception or any alteration of hydrology.

Whether or not the developers will need a 404 permit to discharge dredged and fill materials into surrounding fen wetlands is irrelevant to their protection, according to wetlands experts and hydrologists at the EPA. That's because the permit-regulated fens on the parcel are fairly sensitive to minor changes to the land surrounding them, according to Mike Wireman, a groundwater hydrologist with the EPA.

Mark Williams, a hydrologist at the University of Colorado at Boulder who looked over the site last June with Wireman, agreed about the risks, saying in an interview that the development most likely will impact groundwater that feeds into the wetlands there.

Despite proposals by the developer to avoid impacts to wetlands by bridging tributaries and wetlands in the base area, Sarah Fowler, a wetlands expert at the EPA who also walked the site in June, remains concerned. The construction of below-grade foundations in the area, for example, can significantly lower groundwater in adjacent wetlands.

At the Breckenridge Ski Area base facility, for instance, groundwater models completed there have demonstrated that even minimal impingement into groundwater from foundations will have far reaching effects on down-gradient wetlands, Fowler said.

Moreover, foundations from buildings in the vicinity of the fens on the developer's land could act as groundwater wells creating cones of depression impacting critical groundwater supporting the fens, she said.

However, Honts believes that the project can be done without impacting the parcel's wetlands. To assure there's no downstream impact, the uplands development will be monitored and studied with underground monitoring wells, he said.

In response to the Corps' verification of his consultant's wetlands delineations for the land, Honts concluded, "We've complied with the law, and we're pleased to say that." As for the EPA's exclusion from the process, "It sounds like the environmentalists want a second bite at the apple," he said. •

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CORPS OF ENGINEERS

TopStory



Skiers and snowboarders meander through the base area of Wolf Creek on Monday. The Village at Wolf Creek, proposed not far from the current base area, is continuing to stir up controversy. The Army Corps of Engineers and the Environmental Protection agency are currently at odds over wetlands regulation. /Photo by Todd Newcomer.

# Wetlands heat up Wolf Creek debate

Agencies clash over regulation of "old-growth" wetlands

am Howell

Wetlands are currently boiling with controversy in the vicinity of Wolf Creek Ski Area. According to recently obtained e-mails, two agencies are throwing jabs in it about over the regulation of wetlands they relate to the proposed Village at Wolf Creek. According to the Army Corps of Engineers' Albuquerque District has prevented the Environmental Protection Agency from releasing the locations of wetlands at the proposed development. Under the Freedom of Information Act (FOIA), several work-e-mails were recently acquired by the EPA regarding the proposed Village, which would include 2,172 acres and 222,100 square feet of wetland space on 287.5 acres near the current Wolf Creek Ski Area. Opposing the development is the

Leavell-McCombs Joint Venture funded by Texas billionaire Billie Joe "Red" McCombs, co-founder of Clear Channel Communications Inc. Unaffiliated with the family-run Wolf Creek Ski Area, McCombs and his venture partner Bob Honts, a Texas-based developer, want to build what opponents call a "Vail-sized city" within the property boundaries of the current ski area at the base of the Alberta lift. The Army Corps was reviewing a map prepared by the developer's consultants. Such delineations are done to outline the boundaries of and prevent impacts to wetlands. In the case of the Wolf Creek wetlands, the Army Corps had

"To say that I am disappointed is to put it mildly."

Gene Reetz, EPA wetlands team leader, previously accepted a request from the Environmental Protection Agency to participate in the field verification of the wetlands boundaries. As a result, Project Manager Anita Culp of the Corps' Southern Colorado Regulatory Office, offered the EPA dates in September for when the two agencies could work together on the project. But shortly thereafter, her boss, Dan Malanchuk, chief of the Corps' Albuquerque District, refused to clear it and ordered her to block the EPA's request to review their wetlands delineations.

At that time, Culp called Gene Reetz, the EPA's wetlands team leader, saying that their original offer was "off the

table," according to the emails. Furthermore, since the EPA does only a couple delineations per year, it would be inappropriate for them to get involved, Malanchuk said in a recent interview. Reetz responded to the turn-down the next day in a letter to Malanchuk, writing, "To say that I am disappointed is to put it mildly." Given the controversy surrounding the proposed "Village," Reetz said he desired a more cooperative effort; at the same time, he did not leave out legal action as a possibility. He also cited a 1979 legal precedent under former U.S. Attorney General Benjamin Civiletti that gives the EPA jurisdiction under the Clean Water Act to make the final determination as to what constitutes "waters of the United States." Although the Army Corps implements the delineation program, the EPA has enforcement authority and can veto permits authorizing the discharge of dredged or fill materials within waters

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2005 006241

## Wetlands

from p. 7

of the U.S. in "special cases," Reetz said.

Plus, the Corps' exclusion of the EPA comes amid their shared responsibilities to implement the Clean Water Act. In the Corps' Regulatory Program Mission Statement, it avows, "During the permit process, the Corps considers the views of other federal, state and local agencies, interest groups and the general public."

For the Corps to exclude the EPA suggests that political meddling is occurring, says Jeff Berman, director of the Friends of Wolf Creek. Especially disconcerting to Berman is that a Freedom of Information Act request to the Corps' Albuquerque District has received no response. "They should tell us if Red McCombs and their attorneys in Washington, D.C., are pulling strings," he said.

Meanwhile, the Rio Grande National Forest continues to write the final Environmental Impact Statement (EIS) for the Village at Wolf Creek. As the process unfolds, the development proposal continues to generate opposition.

Spearheading opposition to the development, the Friends of Wolf Creek includes representation from a variety of conservation groups like Colorado Wild, the American Lands Alliance, the Colorado Mountain Club, San Juan Citizens Alliance and the Wilderness Society. In addition, the owners of the Wolf Creek Ski Corp. and U.S. Rep. John Salazar, D-Colo., have gone on the record opposing the development.

This opposition coincides with the "significant likelihood of direct, indirect

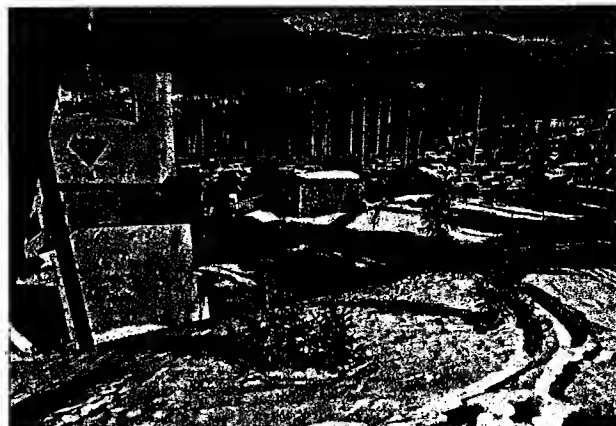
and cumulative adverse impacts to wetlands that could result from the proposal," as the EPA warned in response to the Rio Grande National Forest's Draft environmental impact statement.

Specifically, the EPA has serious concerns about the protection of fen wetlands at Wolf Creek. Considered old-growth wetland ecosystems, fens are irreplaceable habitats, according to the EPA. As groundwater-driven systems dependent on a seasonally stable water supply, fens are particularly susceptible to groundwater interception or any alteration of hydrology.

Whether or not the developers will need a permit to discharge dredged and fill materials into surrounding fen wetlands is irrelevant to their protection, according to wetlands experts and hydrologists at the EPA. That's because the permit-regulated fens on the parcel are fairly sensitive to minor changes to the land surrounding them, according to Mike Wireman, a groundwater hydrologist with the EPA.

Mark Williams, a hydrologist at the University of Colorado at Boulder who looked over the site last June with Wireman, agreed about the risks, saying in an interview that the development most likely will impact groundwater that feeds into the wetlands there.

Despite proposals by the developer to avoid impacts to wetlands by bridging tributaries and wetlands in the base area, Sarah Fowler, a wetlands expert at the EPA who also walked the site in June, remains concerned. The construction of below-grade foundations in the area, for example, can significantly lower groundwater



A full parking lot sits above the proposed site for the Village at Wolf Creek. Opponents of the massive development suspect political leverage is responsible for the current wetlands impasse. (Photo by Todd Newcomer.)

in adjacent wetlands.

At the Breckenridge Ski Area base facility, for instance, groundwater models completed there have demonstrated that even minimal impingement into groundwater from foundations will have far-reaching effects on down-gradient wetlands, Fowler said.

Moreover, foundations in the vicinity of the fens could act as groundwater wells, creating cones of depression impacting critical groundwater supporting the fens, she said.

However, Honts believes that the project

can be done without impacting the parcel's wetlands. To assure there's no downstream impact, the uplands development will be monitored and studied with underground monitoring wells, he said.

In response to the Corps' verification of his consultant's wetlands delineations for the land, Honts concluded, "We've complied with the law, and we're pleased to say that." As for the EPA's exclusion from the process, "It sounds like the environmentalists want a second bite at the apple," he said. ■

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## Quick'n'Dirty

### Park Service rewrite stirs emotions

Watchdog groups throughout the nation are still outraged by what they say is an attempt by the Department of Interior to "hijack" the National Park System. There is fear that national parks with fragile cultural resources, like nearby Mesa Verde and Chaco Canyon, could be in the greatest danger.

The Coalition of National Park Service Retirees, a watchdog group composed of 410 former Park Service employees, has come down strongly against a proposed revision to the National Park Service rulebook. The group and others have pointed accusatory fingers at Paul Hoffman, deputy assistant secretary of the Department of Interior, who has been working in private on the ambitious rewrite of the guidelines for two years. A version of Hoffman's draft was leaked to the public earlier this fall.

The Hoffman draft contains line-by-line changes to the text and a sweeping shift in the Park Service mission. By doing things like encouraging motorized use and elevating mining and grazing to "park purposes," the Hoffman draft challenges 90 years of Park Service laws, according to the opposing groups. In particular, they put a premium on public use at the expense of preservation.

In response, 25 career executives in the National Park Service banded together in early December and challenged the rewrite with an unprecedented letter of opposition. The letter notes that the changes "are a drastic and dangerous departure from a longstanding national consensus. The proposed changes are not driven by law, by any conservation need, or by any failure of practical application. Little has changed since the present policies became effective less than five years ago."

The group of 25 goes on to call for a termination of the changes to the rulebook and argued against increasing commercialization of national parks. "Advertising and prominent recognition of contributions and support should be avoided if they have the effect of reducing the vital contrast between the park experience and the daily routines and experiences that many visitors seek to leave behind. Protection of resources must take priority over the scheduling of events, of any kind, that have entertainment as their primary purpose," the letter continues.

The proposed policy changes are available for public review, and the National Park Service is encouraging people to air their concerns. More information can be found by logging onto [www.nps.gov](http://www.nps.gov), scrolling down and clicking on "Draft 2006 Management Policies."

### Big oil shifts focus to natural gas

Big energy is returning to the continental United States, and Southwest Colorado is no exception. Decades after the national oil and gas industry spun into decline, it is revving up again with cities like Houston and Dallas experiencing renaissances and even more emphasis going into the development of coal-bed methane throughout the Rocky Mountains.

Earlier this month, ConocoPhillips acquired the domestic company Burlington Resources for an astonishing \$35.6 billion. *The Business* online journal noted that the move is evidence that the biggest oil companies are no longer selling out of the United States and may be returning to their old national stronghold. The journal added that Russia and the Middle East never opened up to Western oil, and the new prize for companies is natural gas.

Lysle Brinker, an industry analyst, told *The Business*, "The deal is a huge bet on natural gas prices. Nonconventional gas plays have made mature, declining basins exciting again. The oil companies are returning to the exact same areas they left decades ago."

The principle "nonconventional gas" is none other than coal-bed methane, which exists in the Four Corners in abundance.

The Burlington acquisition is the biggest deal in the oil industry since the merger between Conoco and Phillips in 2002 and makes Conoco the largest producer of gas in the United States. The new company will exceed both Exxon Mobil and BP in production of coal-bed methane.

### National Geographic profiles lynx

The project to bring Canada lynx back to the San Juan Mountains received big press this month. The Colorado Division of Wildlife's re-introduction project is featured in an article in the January issue of *National Geographic Magazine*, which is now on newsstands.

The story explains the history of the project and describes how the lynx population is being re-established in the Colorado Rockies, an area where the lynx once thrived. Before reintroduction started in 1999, the last recorded sighting of a lynx in



**BikeTykes:** John Ford gives his daughters Autumn and Ranier a helpful push along the river trail recently. Photo by Todd Newcomer.

Colorado was in 1973.

For the article, writer Daniel Glick worked closely with researcher Tanya Shenk, wildlife pilots and the lynx field crews to gain insight into this project. In the story, Glick writes that the reintroduction program "is now recognized as one of the most ambitious and thriving carnivore reintroductions in the nation."

Tim Hoeman, public affairs director for the DOW, said the agency is honored to be featured in one of the world's most prestigious magazines. "The lynx reintroduction program represents an important long-term conservation effort by the Colorado Division of Wildlife," he said. "It will be several years before we can call the program successful, but we know that lynx are adapting to Colorado's mountains and that the reintroduction is going very well."

Since 1999, the DOW has released 204 lynx in the San Juans. The DOW estimates that more than 200 are alive, including 101 kittens that were born during the last three years, one of the biggest marks of the project's success. After April 1 of next year, another 15 lynx will be released, and additional releases are planned for 2007 and 2008.

### Business forum gathers for 14th year

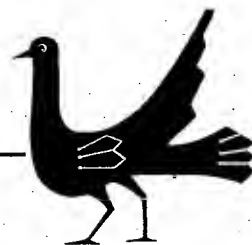
The current and future state of La Plata County's economy take center stage at Fort Lewis College next Thurs., Jan. 5. The 14th annual Southwest Business Forum convenes at that time, and this year's theme is: "Focus on Our Future: Business and Economics."

Tom Harrington, dean of the School of Business Administration, commented that the forum is indispensable to local business people, saying, "We have gathered a distinguished panel of experts to give their assessment of the current and future state of the economy."

Patty Burkholder, president of Wells Fargo Durango, has been the driving force behind the forum and its continuation. She offered that the forum will be an "especially informative and valuable session" for local businesses, nonprofits, government agencies and personal enterprises. "The more you understand the economic influences on business, the better decisions you can make," she said.

The event kicks off at 7:30 a.m. in Room 130 Noble Hall with a continental breakfast. Seminars include: Composition and Trends of the La Plata County Economy; the Colorado Economy; the National and International Economy; and an open question-and-discussion period. The forum adjourns at 11:30 a.m., and admission to all events is free.

— compiled by Will Sands



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## Army approves Village wetlands

By LARRY WINGET

ALAMOSA — The U.S. Army Corps of Engineers has approved a wetlands delineation map for the proposed Village at Wolf Creek.

According to a press release issued by the developers of the Village, the Corps of Engineers has issued a jurisdictional determination, under section 404 of the Clean Water Act.

This action approved a wetlands delineation map of the Village that was submitted to the Corps in the fall of 2005 by Western Ecological Resource, Inc.

Working for the Village, WER, Inc., determined which wetlands within the proposed Village's boundaries are under the jurisdiction of the Corps of Engineers and which are not. David Johnson, wetlands ecologist with WER, Inc., said that his company had "delineated which wetlands were under Corps jurisdiction, period."

Johnson said that determining such jurisdiction was the first step anyone would have to make when undertaking a project like the Village at Wolf Creek.

According to the developer's press release, "The current mapping delineation establishes 59.19 acres of jurisdictional delineated wetlands and 2.71 acres of non-jurisdictional wetlands out of the 287.5 acre private land ownership parcel."

A letter signed by Anita E. Culp, senior project manager with the Army Corps of Engineers, was sent to WER, Inc. It states that the Corps has "evaluated the information you provided and concur(s) with your findings of waters of the United States within the project site...and concur(s) with your findings of non-jurisdictional wetlands within your project site."

In a phone interview, Culp said that she had visited the site of the proposed Village at Wolf Creek. She spent two days verifying the information on some 80 "data sheets" that the developer of the planned Village submitted to the U.S. Army Corps of Engineers.

Culp said that a U.S. Supreme Court decision says that certain "isolated" wetlands are not under Corps of Engineers jurisdiction.

When asked if any of the wetlands in question needed protection, or if the Corps planned any control over development in the area, Culp said, "I don't know. I

2005 00624

won't know until the developer submits a detailed plan for the site. Technically, if there is no fill into jurisdictional waters, they don't need a permit. A person could build on uplands next to wetlands and no permit is needed. A permit is needed only if there is fill into jurisdictional waters." Culp said that any further action regarding wetlands at the planned site would depend on two things. First, the developer must submit a plan detailing roadways, utility placement and other aspects of the physical layout of the development. Then, the Corps will consider additional permits under section 404 of the Clean Water Act only if filling is to be done into streams and wetlands under Corps of Engineers jurisdiction.

The developer's press release says that the jurisdictional map "is a vital step forward in the forthcoming development process of the Village...and is a critical tool for our Final Planning and Engineering design work."

Send us your comments about this article.

# THE DURANGO HERALD

Since 1887

## Feds approve wetlands map for Wolf Creek Developers' plan OK; Colorado Wild threatens to sue

December 13, 2005

By Jesse Harlan Alderman | *Herald Staff Writer*

Developers of the Village at Wolf Creek and the Army Corps of Engineers agree on where endangered wetlands are located at the project, but a Durango environmental group is threatening to sue over the pact.

On Friday, the Corps' Albuquerque District approved a map prepared by developers outlining the boundaries of wetlands habitat within the 288-acre village site. The map is valid for five years.



McCombs

The decision marks the Corps' third approval of wetlands mapping by developers of Texas billionaire Billie Joe "Red" McCombs' proposed village.

At least one environmental group vowed to fight the Corps over the approval. Colorado Wild, based in Durango, says the agency is understaffed, breaching its responsibility to protect 93 acres of federally protected fens wetlands that dot the village site near Alberta Lake.

"We'll check with our lawyers and see what recourse we have," said Jeff Berman, Colorado Wild's former executive director. Berman still works with the environmental group on matters related to the Village at Wolf Creek.

"To accurately determine wetlands as complex as these, you can't go out for a site visit for an hour and say everything is OK," he said.

Documents obtained from the Corps show that Anita Culp, senior project manager for the Southern Colorado Regulatory Office, visited the village site on Sept. 19 and 20.

While developers and federal engineers agree on where the wetlands are located, builders still require a special permit from the Corps to tamper with the waters.

Culp said federal engineers have not received any building plans from developers.

If developers decide to dredge or fill federally protected wetlands to accommodate building, the Corps requires an approval, known as a 404 permit for the section of the Clean Water Act that safeguards endangered wetlands.

"We say we agree with their mapping," Culp said. "When they come up with a plan for roads, water lines, sewer lines, structures and everything else, we will overlay that on wetlands mapping. At that point, we will decide if 404 permits are needed."

Village plans call for hotels and up to 2,200 homes for as many as 10,000 people in the middle of the Rio Grande and San Juan national forests. The site sits next to the rustic Wolf Creek Ski Area at 10,300 feet along the Continental Divide.



Bob Honts, village president and CEO, pledged that developers will spend added money to build around the wetlands. He compared environmentalists accusing developers of damaging wetlands before ground is even broken to a judge convicting someone of "murder" and "wife-beating" before any crime is committed.

"We will bridge over and we will go around to avoid the wetlands," Honts said. "We will not proceed with any 404 permits, and the reason is there are better ways to do it. All the 404 permit would do is give a reason for the Jeff Bermans of the world to jump around."

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Berman rebuffed the promise, calling it impossible to build a resort bigger than Aspen or Vail and still protect waters and streams critical to the survival of wildlife atop Wolf Creek Pass.

"When you build structures and foundations in that environment, adjacent wetlands will dry up or flood," he said. "They won't be able to behave the way they are used to."

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SOUTHERN COLORADO REGULATORY OFFICE  
720 NORTH MAIN STREET SUITE 300  
PUEBLO CO 81003-3047

CULP/719-543-6914

December 12, 2005

Operations Division  
Regulatory Branch

Mr. Gene Reetz  
ATTN: 8EPR-EP  
Environmental Protection Agency  
999 - 18th Street, Suite 500  
Denver, Colorado 80202-2466

Dear Mr. Reetz:

Reference is made to our October 18, 2005 meeting in Alamosa regarding the new wetland delineation of the Village at Wolf Creek in tributaries of Pass Creek near South Fork, Mineral County, Colorado, Action No. 2005 00624.

At the meeting, your requested a copy of the approved wetland delineation report when it was available. Enclosed is a copy of the "Wetland Delineation Report, Village at Wolf Creek, Mineral County, Colorado" dated November 2005, and my letter dated December 9, 2005 approving the jurisdictional determination of waters of the United States and findings of non-jurisdictional waters on the development site.

If you have any questions please feel free to write or call me at (719) 543-6914 or e-mail me at anita.e.culp@usace.army.mil.

Sincerely,

Anita E. Culp  
Senior Project Manager

Enclosures

Copy furnished:

Mr. Bob Honts  
Village at Wolf Creek Development Corporation  
1402 San Antonio St., Suite 102  
Austin, TX 78701

So Colo Reg Ofc

2005 00624

Published: Sunday December 11, 2005

## Wolf Creek development hits home hard



**JOHN  
SALAZAR**

I am so proud to have had the opportunity to represent Southern Colorado, first as a Colorado state representative and now as a U.S. representative. No matter what my title has been, I have always stayed true to my roots and will continue the fight for what matters to our rural communities - economic development and water rights.

Back in the Statehouse, I built a bipartisan coalition to protect our water rights. Now in Congress, I work hard to balance those same needs. Those of us from the San Luis Valley understand the importance of having elected officials who know firsthand that rural development and water are more than just contracts and legal paperwork. Jobs and water hit home.

The Village at Wolf Creek development hits home, too.

From day one on this job, I took steps to educate myself about the ins and outs of this deal. My biggest concern has always been how this would impact the community. I have met with the developers and spent time with local community leaders. I have read agency reports, news analyses and constituent letters. My research has led me to believe that the new Village at Wolf Creek will result in growth, but it's not the kind of responsible growth that will be good for the larger community.

Responsible development is done in a way that enhances, not dries up resources - like water - which keep our economy running. Responsible development involves long-term economic growth plans, not a flash-in-the pan, jobs here one day and gone the next.

Last, if not most important, responsible development requires community input and participation. It involves taking time to bring people together as part of a public process to make sure no one community benefits at the expense of another one.

2005 00624

We have certainly learned some hard lessons about responsible development from Colorado Springs' poor management of Fountain Creek. Unchecked development has led to contaminated water and downstream users are the ones suffering from the poor planning. Rather than job growth and raising the standard of living for the region, unchecked development pits communities against each other, making people who should be united compete for scarce resources.

The new Wolf Creek development concerns me for the same reasons - a hope of new jobs and income twisted into a nightmare of contaminated water and communities fighting with each other.

The original development seemed promising at a 200-unit scale, bringing the hope of new jobs and income for the area. But the new plans for more than 2,000 units will be unmanageable and have raised an outcry throughout the 3rd Congressional District.

The development may increase economic output from Southern Colorado, but there is no guarantee that local people will get the jobs. Local communities will then have to find a way to absorb workers hired from the outside and deal with the strain that they put on the community.

With water users in the San Luis Valley still trying to dig out of the drought, we need to be especially careful of the Wolf Creek development's impact on downstream users. Valley water users are struggling to meet current demand and a project this size could hurt our ability to recover from the drought. Rural water users cannot afford to speculate on how this development will impact water supplies.

I am deeply concerned about what impact this project will have on Colorado's obligation to the Rio Grande Compact and the water quality for downstream water users.

A 2004 study by the Hydrosphere Resource Consultants concluded that the Wolf Creek developers overestimated the available supply of water. The developers also underestimated the water needed to sustain the site. It is my understanding that the project specs do not account for any distribution system losses.

The Wolf Creek development as now proposed hits home in ways we cannot afford.

Local farmers, economic development advocacy groups and scientific studies have independently concluded the project will have major negative impacts on local water users. The project does not fit the regional needs of communities in Southern Colorado and will injure water rights of the Rio Grande. I cannot support a project that hurts the community I grew up in and that I represent.

Economic development is key to the survival and growth of rural communities.



One of my goals in Congress is to encourage responsible development and economic growth in rural Colorado, which can only be done by communities coming together. I will always be open to your ideas and stand ready to work with you to bring sustainable economic growth to the area.

*U.S. Rep. John Salazar, a Democrat, is Colorado's 3rd District congressman. A native of the San Luis Valley, he still lives and farms in the Manassa area.*

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PUEBLO CO 81003-3047

CULP/719-543-6914

December 9, 2005

Operations Division  
Regulatory Branch

Mr. David Johnson  
Western Ecological Resource, Incorporated  
711 Walnut Street  
Boulder, CO 80302

Dear Mr. Johnson:

This replies to your November 29, 2005 letter requesting a Section 404 jurisdictional determination for waters of the United States for the proposed Village at Wolf Creek in wetlands and tributaries of Pass Creek near South Fork, Mineral County, Colorado. We have assigned Action No. 2005 00624 to this request.

We have evaluated the information you provided and concur with your findings of waters of the United States within the project site. I visited the site on September 19 and 20, 2005. Alberta Park and associated wetlands; wetlands adjacent to streams; and perennial, intermittent and ephemeral streams are regulated under provisions of Section 404 of the Clean Water Act. The wetland and stream boundaries are as described in your report entitled, "Wetland Delineation Report, Village at Wolf Creek, Mineral County, Colorado" dated November 2005. A Department of the Army permit may be required for the discharge of dredged or fill material into these waters.

As clarification, the following statement also applies to your statements for Tributary Wetlands (Section 5.2 of your report) under your headings Jurisdictional Status: The wetlands are adjacent to streams which are themselves waters of the United States.

We have evaluated the information you provided and concur with your findings of non-jurisdictional wetlands within the project site. The non-jurisdictional waters are as described and labeled in your report as "isolated wetlands" and "ditch wetlands". The isolated wetlands are ones which eventually disappear into sheet flow. These sheet flows are not directly

2005 00624

connected to any downstream receiving water of the United States. Based on available information, we have determined that these wetlands are isolated waters that are not jurisdictional waters of the United States. The ditch wetlands are ones which are located in non-tidal drainage ditches excavated on dry land. They also are not jurisdictional waters of the United States. The discharge of dredged or fill material into these isolated wetlands and ditch wetlands will not require authorization under Section 404 of the Clean Water Act.

This jurisdictional determination will be valid for 5 years from the date of this letter unless new information warrants revision of the determination before the expiration date. Please note that this Corps of Engineers' wetland delineation concurrence and disclaimer of jurisdiction is only for Section 404 of the Clean Water Act and does not serve the purposes of the Food Security Act or other federal, state, or local requirements.

If you have any questions about these determinations or about permit requirements, please feel free to contact me at (719) 543-6914 or by email at [anita.e.culp@usace.army.mil](mailto:anita.e.culp@usace.army.mil).

Sincerely,

Anita E. Culp  
Senior Project Manager

Copies Furnished:

Mr. Bob Honts  
Village at Wolf Creek  
Development Corporation  
1402 San Antonio St, Ste 102  
Austin, TX 78701

Mr. Sam Brown  
Sam Brown and Company  
7744 Valmont Road  
Boulder, CO 80301

So Colo Reg Ofc (with incoming)  
Durango Reg Ofc (with incoming)

**JURISDICTIONAL DETERMINATION**  
U.S. Army Corps of Engineers

Revised 8/13/04

**DISTRICT OFFICE:** ALBUQUERQUE  
**FILE NUMBER:** 2005 00624

**PROJECT LOCATION INFORMATION:**

State: Colorado  
County: Mineral  
Center coordinates of site (latitude/longitude): lat:37-28-6.8880 lon:106-46-42.6360  
Approximate size of area (parcel) reviewed, including uplands: 287.5 acres.  
Name of nearest waterway: Pass Creek  
Name of watershed: 1102 Arkansas-Upper

**JURISDICTIONAL DETERMINATION**

**Completed:** Desktop determination [X] Date: 12/8/05  
Site visit(s) [X] Date(s): 9/19/05

**Jurisdictional Determination (JD):**

☐ Preliminary JD - Based on available information, ☐ *there appear to be* (or) ☐ *there appear to be no* "waters of the United States" and/or "navigable waters of the United States" on the project site. A preliminary JD is not appealable (Reference 33 CFR part 331).

☒ Approved JD - An approved JD is an appealable action (Reference 33 CFR part 331).

Check all that apply:

☐ *There are* "navigable waters of the United States" (as defined by 33 CFR part 329 and associated guidance) within the reviewed area. Approximate size of jurisdictional area: .

☒ *There are* "waters of the United States" (as defined by 33 CFR part 328 and associated guidance) within the reviewed area. Approximate size of jurisdictional area: 61.91 acres.

☒ *There are* "isolated, non-navigable, intra-state waters or wetlands" within the reviewed area.

☒ Decision supported by SWANCC/Migratory Bird Rule Information Sheet for Determination of No Jurisdiction.

**BASIS OF JURISDICTIONAL DETERMINATION:**

**A. Waters defined under 33 CFR part 329 as "navigable waters of the United States":**

☐ The presence of waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

**B. Waters defined under 33 CFR part 328.3(a) as "waters of the United States":**

☐ (1) The presence of waters, which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.

☐ (2) The presence of interstate waters including interstate wetlands<sup>1</sup>.

☐ (3) The presence of other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate commerce including any such waters (check all that apply):

☐ (i) which are or could be used by interstate or foreign travelers for recreational or other purposes.

☐ (ii) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.

☐ (iii) which are or could be used for industrial purposes by industries in interstate commerce.

☐ (4) Impoundments of waters otherwise defined as waters of the US.

☒ (5) The presence of a tributary to a water identified in (1) - (4) above.

☐ (6) The presence of territorial seas.

☒ (7) The presence of wetlands adjacent<sup>2</sup> to other waters of the US, except for those wetlands adjacent to other wetlands.

**Rationale for the Basis of Jurisdictional Determination (applies to any boxes checked above).** *If the jurisdictional water or wetland is not itself a navigable water of the United States, describe connection(s) to the downstream navigable waters. If B(1) or B(3) is used as the Basis of Jurisdiction, document navigability and/or interstate commerce connection (i.e., discuss site conditions, including why the waterbody is navigable and/or how the destruction of the waterbody could affect interstate or foreign commerce). If B(2, 4, 5 or 6) is used as the Basis of Jurisdiction, document the rationale used to make the determination. If B(7) is used as the Basis of Jurisdiction, document the rationale used to make adjacency determination:* Numerous unnamed streams and wetlands are tributary to the North Tributary to Pass Creek and the South Tributary to Pass Creek which are tributary to Pass Creek which is tributary to the South Fork Rio Grande which is tributary to the Rio Grande which is an interstate water.

2005 00624

**Lateral Extent of Jurisdiction: (Reference: 33 CFR parts 328 and 329)**

- ☒ Ordinary High Water Mark indicated by: ☐ High Tide Line indicated by:
- |   |  |
|---|--|
| <input checked="" type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> oil or scum line along shore objects      |
| <input type="checkbox"/> the presence of litter and debris                    | <input type="checkbox"/> fine shell or debris deposits (foreshore) |
| <input type="checkbox"/> changes in the character of soil                     | <input type="checkbox"/> physical markings/characteristics         |
| <input checked="" type="checkbox"/> destruction of terrestrial vegetation     | <input type="checkbox"/> tidal gages                               |
| <input type="checkbox"/> shelving   | <input type="checkbox"/> other:                                    |
| <input type="checkbox"/> other:   |  |
- ☐ Mean High Water Mark indicated by:
- ☐ survey to available datum; ☐ physical markings; ☐ vegetation lines/changes in vegetation types.

☒ Wetland boundaries, as shown on the attached wetland delineation map and/or in a delineation report prepared by: Western Ecological Resource, Inc.

**Basis For Not Asserting Jurisdiction:**

- ☐ The reviewed area consists entirely of uplands.
- ☐ Unable to confirm the presence of waters in 33 CFR part 328.3(a)(1, 2, or 4-7).
- ☐ Headquarters declined to approve jurisdiction on the basis of 33 CFR part 328.3(a)(3).
- ☒ The Corps has made a case-specific determination that the following waters present on the site are not Waters of the United States:
- ☐ Waste treatment systems, including treatment ponds or lagoons, pursuant to 33 CFR part 328.3.
  - ☐ Artificially irrigated areas, which would revert to upland if the irrigation ceased.
  - ☐ Artificial lakes and ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing.
  - ☐ Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons.
  - ☐ Water-filled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States found at 33 CFR 328.3(a).
  - ☐ Isolated, intrastate wetland with no nexus to interstate commerce.
  - ☐ Prior converted cropland, as determined by the Natural Resources Conservation Service. Explain rationale:
  - ☒ Non-tidal drainage or irrigation ditches excavated on dry land. Explain rationale: Those portions of roadside drainage ditches which were apparently built on dry land are not jurisdictional although they may contain wetlands.
  - ☐ Other (explain):

**DATA REVIEWED FOR JURISDICTIONAL DETERMINATION (mark all that apply):**

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant.
- ☒ Data sheets prepared/submitted by or on behalf of the applicant.
- ☒ This office concurs with the delineation report, dated November 2005, prepared by (company): Western Ecological Resource, Inc.
- ☐ This office does not concur with the delineation report, dated , prepared by (company):
- ☐ Data sheets prepared by the Corps.
- ☐ Corps' navigable waters' studies:
- ☐ U.S. Geological Survey Hydrologic Atlas:
- ☒ U.S. Geological Survey 7.5 Minute Topographic maps: Wolf Creek Pass, CO
- ☐ U.S. Geological Survey 7.5 Minute Historic quadrangles:
- ☐ U.S. Geological Survey 15 Minute Historic quadrangles:
- ☐ USDA Natural Resources Conservation Service Soil Survey:
- ☒ National wetlands inventory maps: Wolf Creek Pass, CO
- ☐ State/Local wetland inventory maps:
- ☐ FEMA/FIRM maps (Map Name & Date):
- ☐ 100-year Floodplain Elevation is: (NGVD)
- ☐ Aerial Photographs (Name & Date):
- ☐ Other photographs (Date):
- ☐ Advanced Identification Wetland maps:
- ☒ Site visit/determination conducted on: 9/19-20/05
- ☐ Applicable/supporting case law:
- ☐ Other information (please specify):

<sup>1</sup>Wetlands are identified and delineated using the methods and criteria established in the Corps Wetland Delineation Manual (87 Manual) (i.e., occurrence of hydrophytic vegetation, hydric soils and wetland hydrology).

<sup>2</sup>The term "adjacent" means bordering, contiguous, or neighboring. Wetlands separated from other waters of the U.S. by man-made dikes or barriers, natural river berms, beach dunes, and the like are also adjacent.

**INFORMATION SHEET**  
**DETERMINATIONS OF NO JURISDICTION FOR ISOLATED, NON-NAVIGABLE, INTRA-STATE WATERS RESULTING**  
**FROM U.S. SUPREME COURT DECISION IN SOLID WASTE AGENCY OF NORTHERN COOK COUNTY V. U.S. ARMY**  
**CORPS OF ENGINEERS**

**DISTRICT OFFICE:** Albuquerque District

**FILE NUMBER:** 2005 00624

**REGULATORY PROJECT MANAGER:** Anita E. Culp **Date:** December 8, 2005

**PROJECT REVIEW/DETERMINATION COMPLETED:** In the office (Y/N) **Y** **Date:** 12/8/05

At the project site (Y/N) **Y** **Date:** 9/19-20/05

**PROJECT LOCATION INFORMATION:**

**State:** Colorado

**County:** Mineral

**Center coordinates of site by latitude & longitude coordinates:**  
 37-28-7 / 106-46-43

**Approximate size of site/property (including uplands) in acres:** 287.5

**Name of waterway or watershed:** Pass Creek

Type of Aquatic Resource <sup>1</sup> :	0-1 ac	1-3 ac	3-5 ac	5-10 ac	10-25 ac	25-50 ac	> 50 ac	Linear Feet	Unknown
Lake									
River									
Stream									
Mudflat									
Sandflat									
Wetlands		X							
Slough									
Prairie Pothole									
Wet Meadow									
Playa Lake									
Vernal Pool									
Natural Pond									
Other Water (identify type)									

<sup>1</sup>Check appropriate boxes that best describe type of isolated, non-navigable, intra-state water present and best estimate for size of non-jurisdictional aquatic resource area.

Migratory Bird Rule Factors <sup>1</sup>	If Known		If Unknown Use Best Professional Judgment		
	Yes	No	Predicted to Occur	Not Expected to Occur	Not Able to Make Determination
Is or would be used as habitat for birds protected by Migratory Bird Treaties?	X				
Is or would be used as habitat by other migratory birds that cross state lines?			X		
Is or would be used as habitat for endangered species?			X		
Is used to irrigate crops sold in interstate commerce?		X			

<sup>1</sup>Check appropriate boxes that best describe potential for applicability of the Migratory Bird Rule to apply to onsite, non-jurisdictional, isolated, non-navigable, intra-state aquatic resource area.

2005 00624

TYPE OF DETERMINATION: Preliminary Or Approved **X**

**ADDITIONAL INFORMATION SUPPORTING NJD** (e.g., paragraph 1 - site conditions; paragraphs 2-3 - rationale used to determine NJD, including information reviewed to assess potential navigation or interstate commerce connections; and paragraph 4 - site information on waters of the U.S. occurring onsite):

The project site is located in the high mountains. The terrain is shallow to steep slopes leading into a basin which then drains into two streams which are tributary to Pass Creek which is tributary to the South Fork Rio Grande which is tributary to the Rio Grande which is an interstate water.

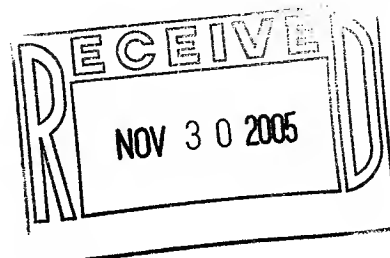
Two kinds of non-jurisdictional wetlands are found on the site: wetlands formed around isolated seeps and which have no surface connection (such as an upland swale) to other waters of the US, and wetlands which are located in roadside drainage ditches built on uplands.

The project site contains 61.91 acres of jurisdictional waters of the US including wetlands and perennial, intermittent, and ephemeral streams.



**WESTERN  
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mail@westerneco.com



2005 00624

November 29, 2005

Anita Culp  
U.S. Army Corps of Engineers  
720 N. Main St., Suite 300  
Pueblo, CO 81003

Via Courier

RE: Village at Wolf Creek

Dear Anita:

Please find enclosed five (5) copies of the Wetland Delineation Report for the Village at Wolf Creek property located in Mineral County, Colorado. Please call either me or Rea Orthner if you have questions. The Village at Wolf Creek Development Corporation requests a jurisdictional determination letter following your review.

Sincerely,

David Johnson  
Ecologist

DJ/ssc

cc: Bob Honts  
Sam Brown

Enclosures





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# Wetland Delineation Report

## Village at Wolf Creek

Mineral County, Colorado

---

2005 00624

*prepared for:*

**The Village at Wolf Creek  
Development Corporation**

1402 San Antonio St. Suite 102, Austin, TX 78701

*prepared by:*

**Western Ecological Resource, Inc.**

711 Walnut Street, Boulder, CO 80302

November 2005



---

# Wetland Delineation Report

## Village at Wolf Creek

Mineral County, Colorado

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*prepared for:*

**The Village at Wolf Creek Development Corporation**

1402 San Antonio St. Suite 102, Austin, TX 78701

*prepared by:*

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711 Walnut Street, Boulder, CO 80302

November 2005

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## 1.0 Introduction

The Village at Wolf Creek Development Corporation has proposed a residential and commercial development on a 287.5 acre property located in Alberta Park near the Wolf Creek Ski Resort in Mineral County, Colorado. Specifically, the project is located in an un-sectioned area of Township 37 North and Range 2 East (Figure 1). Wetlands on the project site were mapped to provide information for project planning.

This report describes the environmental setting of the project site, and the methods used to delineate and classify wetlands. Each wetland area is described with respect to its location, landform, classification, hydrology, vegetation, soils and jurisdictional status. Meetings with the U.S. Army Corps of Engineers (Corps) are also documented. A map of all wetlands is included in the back cover of this report, Tables are in Section 9.0, Photographs are in Section 10.0, and Appendix A contains copies of all field data forms.

## 2.0 Environmental Setting

The project site is located south of U.S. Highway 160 about one mile south of Wolf Creek Pass. The project site lies between the Continental Divide to the west and Alberta Park Reservoir to the east. The 540 feet of vertical relief ranges from a high of 10,850 feet in the southwest to a low of 10,310 feet in the north. The project site slopes and drains to the north and to the east (Figure 2). The North Tributary to Pass Creek traverses the northern end of the project site, and the South Tributary to Pass Creek bisects the central portion of the project site and flows east to Alberta Park Reservoir. Numerous unnamed drainages flow north into the South Tributary, and several unnamed drainages flow east to the North Tributary. The relatively flat area between the North and South Tributaries is referred to as Alberta Park.

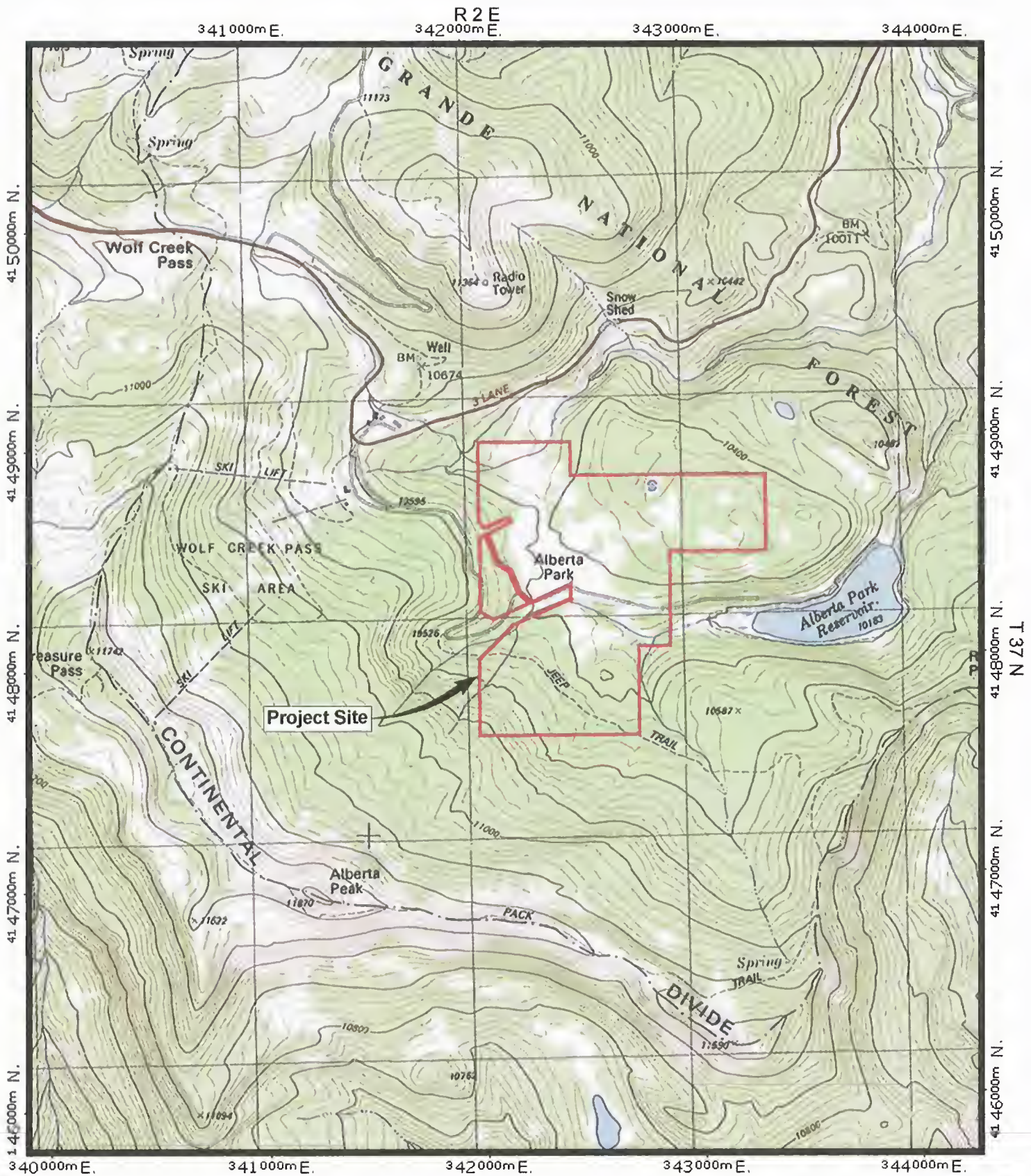
Alberta Park Road, an unimproved dirt road, extends from U.S. Highway 160 across the project site to the Alberta Park Reservoir. In addition, there are numerous four wheel drive dirt roads on the project site. The base structure for the Alberta Ski Lift is located in Alberta Park just off the project site, and this ski lift extends across a part of the project site. There are numerous ski runs and trails on the southern part of the project site. Finally, a recently constructed ski-way bisects the western portion of the project site, which helps to funnel skiers to the Alberta ski lift.

Major vegetation types on the project site include spruce-fir forest, meadows and wetlands.

## 3.0 Methods

Wetlands and other waters of the U.S. features were delineated in accordance with procedures in the U.S. Army Corps of Engineers' Wetland Delineation Manual (1987), on August 1 through 5, and August 29 through 31, 2005. The wetland boundaries were delineated and flagged based on the prevalence of hydrophytic vegetation, on indicators of a wetland hydrology, and on the presence of hydric soils. Rea Orthner, a plant ecologist with Western Ecological Resource, and David Buscher, a soil scientist with Buscher Soil and Environmental Consulting completed the delineation. The entire project site was carefully examined for the potential presence of wetlands. In general, plant species names follow Weber and Wittmann (1992) with differences in Kartesz (1994a and b) nomenclature in parentheses. The wetland status of plants follows the 1988 National List for the Intermountain (R8) Region. The flagged wetland boundaries were surveyed by Costner Surveys, LLC, of Pagosa Springs, Colorado. All surveyed wetland flags were verified by the plant ecologist before being incorporated into the map. In addition, all organic soils (histosols and soils with histic epipedons) were mapped on the project site. The boundaries of such soils were not surveyed at the time of report preparation; however, the general location of these soils is shown on Figure 2. Field forms for the 81 test pits can be found in Appendix A.





BASE: USGS 7.5 Minute Wolf Creek Pass, Colorado Quadrangle  
Photorevised: 1984



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**FIGURE 1. Project Location Map  
Wolf Creek**



Scale 1" = 2000'  
Contour Interval = 10'

## 4.0 Agency Coordination

On September 19 and 20, Ms. Anita Culp of the U.S. Army Corps of Engineers (Corps), Albuquerque District, reviewed the flagged wetland boundaries with Ms. Orthner and Mr. Buscher, who completed the delineation. Also present were Mr. Don Ganser, hydrologist with Arcadis G&M Inc., Mr. Sam Brown, and Mr. Dusty Hicks.

Prior to the meeting, Ms. Culp reviewed all field data forms and a preliminary wetland map. During the meeting, Ms. Culp examined numerous soil pits and reviewed the field data with Ms. Orthner and Mr. Buscher. During the field meeting, three additional soil pits were described, including Pits 77 and 78 in the Central Alberta Park Wetland Complex, and Pit 79 along an ephemeral stream leading to the South Alberta Park Wetlands. After the field review and subsequent correspondence, Ms. Culp agreed with the wetland boundary except for in the vicinity of Soil Pit 18. Initially, soils were considered hydric, however it was later revealed that soils of chroma 2 with faint mottles are not considered hydric soils (Environmental Laboratory, 1987). Rather, mottles must be "bright" meaning distinct or prominent. The wetland boundary was slightly changed in this area to reflect the condition of the mottles.

In addition to approving the wetland boundaries, Ms. Culp also reviewed several wetlands for potential isolation in accordance with SWANCC (U.S. Supreme Court, 2001). Ms. Culp stated that wetlands without evidence of a surface connection to waters of the U.S. are not jurisdictional. Evidence of a surface hydrologic connection includes a drainage pattern as evidenced by a swale with a defined "bed and bank," or a vegetated swale with evidence of water flow, including sediment deposition, or debris (drift) lines. All wetlands were visited by either Ms. Culp or by a wetland ecologist with Western Ecological Resource to determine their jurisdictional status. Ms. Culp also stated that those wetlands in roadside ditches are not jurisdictional if it appears that the ditch was constructed in uplands.

Finally, Ms. Culp stated that she would like to have all springs and drainages on the project site mapped. In order to be classified as a spring, the water must have flow from the ground with enough force to create a defined channel (U.S. Army Corps of Engineers, 2002).

## 5.0 Waters of the U.S.

Waters of the U.S. features on the Village at Wolf Creek property include wetlands; perennial, ephemeral, and intermittent streams; and aquatic habitats. Wetlands of the project site are described below with respect to location, landform, classification, hydrology, vegetation, soils, and jurisdictional status. For purposes of discussion, the wetlands are grouped into four categories: Alberta Park & Associated Wetlands, Tributary Wetlands, Isolated Wetlands, and Ditch Wetlands. Table 1 lists the acreage of each wetland grouping, and Figure 2 illustrates the wetlands; perennial, ephemeral, and intermittent streams; and aquatic habitats upon a topographic map. Finally, Table 2 lists the plant species found in the wetlands including their origin, family, and wetland status indicator.

### 5.1 Alberta Park & Associated Wetlands

The majority of the wetlands on the project site occur in North, Central, and South Alberta Park and their associated 16 wetlands. In total, the Alberta Park Wetlands comprise 49.15 acres and their associated wetlands comprise 5.30 acres. Together these wetlands comprise approximately 88% of all the jurisdictional wetlands found on the project site (Table 1).

#### 5.1.1 Alberta Park Wetlands

Location/Landform. The Alberta Park Wetland Complex is comprised of three distinct wetland areas: the North Alberta Park Wetlands, the Central Alberta Park Wetlands, and the South Alberta



Park Wetlands, which are located in the north, central, and south portions of the project site respectively. These wetlands occur on various aspects and slopes, but in general the North and South Alberta Park Wetlands slope and drain to the north and east. The Central Alberta Park Wetlands, which occur on more level topography drain either to the north into the North Alberta Park Wetlands, or to the south into the South Tributary to Pass Creek. Photos 1 through 8 depict these wetland areas.

Classification. According to the Cowardin et al. (1979) classification system, the majority of these wetlands are classified as a Palustrine system, emergent wetland class, and with a saturated water regime. However, some of these wetlands are classified in the scrub-shrub wetland class, broad leaf deciduous subclass, and in the forested wetland class, needle-leaf evergreen subclass.

Hydrology. This large wetland complex has numerous hydrological sources, the main component of which is groundwater. Groundwater surfaces in these wetlands wherever the topography intercepts the groundwater table, usually evidenced by seeps along the toe slopes of this wetland complex. Springs are also present and are evidenced by a bed and bank channel. In addition, snowmelt runoff and summer precipitation contribute to the hydrology of these wetlands. This contribution is most pronounced in depressions or any other relatively gentle slope. For example, the small pond in the northern part of the Central Alberta Park Wetlands contains standing water for much of the spring and early summer and then dries up unless it receives additional precipitation. Finally, this large wetland complex receives water from the numerous small drainages upslope of the wetlands in the drainage basin.

Vegetation. The Alberta Park Wetland Complex supports several herbaceous wetland communities, one shrubland wetland community, and one forested wetland community. Each wetland community is described below and classified according to the Colorado Natural Heritage Program's 2003 Field Guide to the Wetland and Riparian Plant Associations of Colorado (Carsey et al., 2003).

The *Carex aquatilis* Herbaceous Association is one of the most dominant communities in these wetland areas. This association is dominated by water sedge (*Carex aquatilis*), however beaked sedge (*Carex utriculata*) is often present. When beaked sedge occurs in equal density to the water sedge, this association is better classified as the *Carex aquatilis*-*Carex utriculata* Herbaceous Association. Common associates include tufted hairgrass (*Deschampsia caespitosa*), alpine timothy (*Phleum commutatum*), saffron butterweed (*Packera crocata*), American bistort (*Bistorta bistortoides*), elephant's head (*Pedicularis groenlandica*), marsh marigold (*Psychrophila leptosepala*), hemlock parsley (*Conioselinum scopulorum*), and Rocky Mountain fringed gentian (*Gentianopsis thermalis*). Occasional stands of narrowleaf cottonsedge (*Eriophorum angustifolium*) occur as well.

Also very common is the *Deschampsia caespitosa* Herbaceous Association which occurs in slightly drier areas of the wetland complex. This community is characterized by a dense growth of tufted hairgrass along with wetland plants such as Drummond's rush (*Juncus drummondii*), alpine timothy, bluejoint reedgrass (*Calamagrostis canadensis*), saffron butterweed, flattop pussytoes (*Antennaria corymbosa*), Coulter's fleabane (*Erigeron coulteri*), and American alpine speedwell (*Veronica nutans*). Along the outer edge of this wetland complex several upland species intergrade, including slender wheatgrass (*Elymus trachycaulus*), manyray goldenrod (*Solidago multiradiata*), beautiful cinquefoil (*Potentilla pulcherrima*), yarrow (*Achillea lanulosa*), sulphur Indian paintbrush (*Castilleja sulphurea*), creeping sibbaldia (*Sibbaldia procumbens*), Eastwood's podistera (*Podistera eastwoodiae*) and strawberry (*Fragaria virginiana*). Stands of false hellebore (*Veratrum tenuipetalum*) are often found within this community as well.

The wettest portions of the Alberta Park Wetland Complex are dominated by the *Eleocharis quinqueflora* Herbaceous Association which is most abundant in the shallow wetland pond located in the northern portion of the Central Alberta Park Wetland (Figure 2). In this pond, few

flower spikerush (*Eleocharis quinqueflora*) occurs with water sedge and beaked sedge. The area appears to contain several inches of ponded water throughout the spring and early summer, but in late summer it dries up or has ponded water only after precipitation events.

The numerous small streams within this wetland complex support a dense growth of heartleaf bittercress (*Cardamine cordifolia*), with beaked sedge, water sedge, small-headed sedge (*Carex illota*), pale sedge (*Carex canescens*), and numerous forbs including chiming bells (*Mertensia ciliata*), arrowleaf groundsel (*Senecio triangularis*), marsh marigold, common monkeyflower (*Mimulus guttatus*), brook saxifrage (*Micranthes odontoloma*), and bishop's cap (*Mitella pentandra*). This community appears to be best described as the *Cardamine cordifolia*–*Mertensia ciliata*–*Senecio triangularis* Herbaceous Association.

Stands of the *Calamagrostis canadensis* Herbaceous Association also occur in these wetland areas. Often the bluejoint reedgrass forms dense monotypic stands. When other species are present they include tufted hairgrass, saffron butterweed, Drummond's rush, marsh marigold, American bistort, false hellebore, and Wolf's trisetum (*Trisetum wolfii*).

The last herbaceous wetland community within the Alberta Park wetland complex and elsewhere on the project site is dominated by dense stands of false hellebore mixed with arrowleaf groundsel and monkshood (*Aconitum columbianum*). Although this community has not been described from Colorado, it appears similar to the *Senecio triangularis*–*Veratrum californicum* Herbaceous Association known from moist meadows in Oregon, California, and western Nevada (NatureServe, 2005).

The forested wetland community generally occurs along edges of the wetland complex or along small associated rivulets. The overstory of Engelmann spruce (*Picea engelmannii*) and subalpine fir (*Abies bifolia*) has an understory of arrowleaf groundsel, heartleaf bittercress, Fendler cowbane (*Oxypolis fendleri*), brook saxifrage, bishop's cap, marsh marigold, bluejoint reedgrass, green bog orchid (*Limnorchis hyperborea*), willowherb (*Epilobium* spp.), as well as alpine speedwell, hairy arnica (*Arnica mollis*), Coulter fleabane, subalpine fleabane (*Erigeron peregrinus*), millet woodrush (*Luzula parviflora*), hemlock parsley, and waterplantain buttercup (*Ranunculus alismifolius*). This community appears to be best described by the *Abies lasiocarpa*–*Picea engelmannii*/Mertensia ciliata Forest.

Finally, the North and South Alberta Wetlands contain a *Salix planifolia*/Carex aquatilis Shrubland. This association is dominated by an overstory of planeleaf willow (*Salix planifolia*) with an understory of water sedge, beaked sedge, arrowleaf groundsel, monkshood, marsh marigold, hemlock parsley, and largeleaf avens (*Geum macrophyllum*). Wolf willow (*Salix wolfii*) and bareground willow (*Salix brachycarpa*) are occasionally found as well. This community generally occurs along small streams or wetland swales that remain saturated for most of the growing season.

Soils. Numerous soil pits were examined in the Alberta Park Wetland Complex. Five hydric soils were examined in the vicinity of the North Alberta Park Wetlands. These soils are either Typic Cryaquolls (Soil Pits 37, 38, 47), Cumulic Cryaquolls (Soil Pit 39), or Typic Cryohemists (Soil Pit 36). Soil Pit 46, classified as an Oxyaquic Haplocryoll, is a non-hydric soil and is located outside of the wetland boundary.

Thirteen hydric wetland soils were examined in the Central Alberta Park Wetland Complex. These are classified as Aquic Agricryolls (Pit 10), Agric Cryaquoll (Pit 8), Typic Cryaquolls (Pits 35, 77, and 78) Cumulic Cryaquolls (Pits 2, 3, and 12), Histic or Thapto Histic Cryaquolls (Pits 4, 5, and 7), and Typic Cryohemists (Pits 6 and 17). Nine soils were examined outside of the wetland boundary. Eight of these soils are non-hydric (Pits 1, 9, 11, 15, 18, 34, 48, and 39) and one soil is hydric (Pit 27), but it is not in a wetland as it lacks a wetland hydrology.

Finally, seven soils were examined in the South Alberta Park Wetlands. Six of these soils are hydric, including an Argi Cryaquoll (Pit 71) and five Typic Cryaquolls (Soil Pits 58, 64, 65, 75, and 79). One soil is non-hydric (Pit 70) and is located outside of the wetland boundary.

Please note, numerous areas of histosols and soils with histic epipedons were mapped in the North, Central, and South Alberta Park Wetlands as well as in some of their associated wetlands. The general boundary of these soils is illustrated in Figure 2. In addition, two samples were submitted for organic content analysis. Sample WC-1 has 25.5% organic matter and is considered an organic soil, while sample WC-2 has an organic content of 11.3% and is not considered an organic soil (Appendix B).

Jurisdictional Status. The North, Central, and South Alberta Park Wetland Complex are all contiguous or border tributaries to Pass Creek, which are waters of the U.S. Therefore these wetlands meet the Corps' criteria for jurisdiction.

### 5.1.2 Wetland A

Location/Landform. Wetland A is located along the north property boundary, northeast of the North Alberta Park Wetland Complex. This wetland slopes and drains to the northwest, and portions of this wetland extend east off the project site.

Classification. According to the Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with a saturated water regime.

Hydrology. Water for this wetland is provided by a high groundwater table associated with seeps. The lower portions of this wetland were saturated to the surface at the time of assessment in early August 2005.

Vegetation. Wetland A occurs in an opening of a subalpine fir–Engelmann spruce (*Abies bifolia–Picea engelmannii*) forest. The wetland is dominated by arrowleaf groundsel. Other common associates include Fendler cowbane, heartleaf bittercress, false hellebore, chiming bells, subalpine fleabane, brook saxifrage, bishop's cap, willowherb, common monkeyflower, millet woodrush, bog bluegrass (*Poa leptocoma*), Drummond's rush, and beautiful sedge (*Carex bella*). This wetland community appears to belong to the *Cardamine cordifolia–Mertensia ciliata–Senecio triangularis* Herbaceous Association (CNHP, 2003)

Soils. One soil pit was described from this wetland. Pit 42 is a Typic Cryaqualf, a hydric soil with a 2-inch A horizon, and an 8-inch Bw/E horizon. Common, distinct redoxymorphic features were found below two inches. One small area of organic soils (histosols and/or histic epipedons) was found and mapped in this wetland as well.

Jurisdictional Status. This wetland is directly connected to the North Alberta Park Wetlands and would be considered jurisdictional by the Corps.

### 5.1.3 Wetland B

Location/Landform. Wetland B is located directly south of Wetland A on a gentle northwest-facing slope. The northern portion of the wetland follows a drainage channel down a steep bank to the North Alberta Park Wetlands.

Classification. According to the Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with a saturated water regime.

Hydrology. Water for this wetland is provided by a spring located on U.S. Forest Service (USFS) land to the east of the project site, and by perennial seeps. Much of this wetland was saturated to the surface at the time of assessment in early August 2005, and a small stream of water was flowing to the Alberta Park Wetlands.

Vegetation. The vegetation of the center of this wetland is dominated by *Carex aquatilis* Herbaceous Association. In addition to water sedge, other common species include elephant's head, bluejoint reedgrass, marsh marigold, willowherb, tufted hairgrass, Jones' sedge (*Carex jonesii*), creeping spikerush (*Eleocharis macrostachya*), small-headed sedge, and saffron butterweed. The small drainage channel leading from the spring and the ill-defined channel leading to the Alberta Park Wetlands supports a *Cardamine cordifolia*-*Mertensia ciliata*-*Senecio triangularis* plant association dominated by the heartleaf bittercress and Fendler cowbane.

Soils. One soil pit was described from this wetland. Pit 41 is a Typic Cryohemist, a histosol (a hydric soil) with an organic layer at least 16-inches deep. Pit 40 was described from just south of the wetland in an upland area. Pit 40 is a Typic Cryaquoll, a hydric soil, however it is not in a wetland as a wetland hydrology is lacking.

Jurisdictional Status. This wetland is directly connected to the North Alberta Park Wetlands and would be considered jurisdictional by the Corps.

#### 5.1.4 Wetland C

Location/Landform. Wetland C occurs on a gentle northwest-facing slope directly south of Wetland B. Photo 9 depicts this wetland.

Classification. According to Cowardin et al. (1979) this wetland is classified as a Palustrine system, emergent wetland class, with a saturated water regime.

Hydrology. Water for this wetland is provided by perennial seeps. A large portion of this wetland remains saturated to the surface for the entire growing season.

Vegetation. Wetland C is dominated by herbaceous wetland species. The dominant vegetation type is the *Carex aquatilis* Herbaceous Association. In this wetland, water sedge forms dense stands with common associates including beaked sedge, bluejoint reedgrass, elephant's head, and marsh marigold. Less well represented are tufted hairgrass, small-headed sedge, Jones' sedge, prickly sedge (*Carex angustior*), saffron butterweed, arrowleaf groundsel, Fendler cowbane, waterplantain buttercup, hairy arnica, narrowleaf cottonsedge, and willowherb.

Soils. One soil pit was described from this wetland. Pit 23 is a Typic Cryohemists, a histosol with an organic layer at least 16-inches deep. Most of the eastern portion of this wetland contains histosols and/or histic epipedons. Histosols are classified as hydric soils.

Jurisdictional Status. During the on-site meeting on September 19, 2005, Ms. Anita Culp (Corps) stated that this wetland is jurisdictional due to the presence of an upland swale which connects this Wetland C to Wetland D to the west and then on to the North Alberta Park Wetlands.

#### 5.1.5 Wetland D

Location/Landform. This very small wetland is located directly west and downslope of Wetland C.

Classification. According to Cowardin et al. (1979) this wetland is classified as a Palustrine system, emergent wetland class, with a seasonally flooded water regime.

Hydrology. This wetland receives water from snowmelt runoff. There was no saturation at the time of assessment in early August 2005. A small headcut is present in the upper end of the wetland.

Vegetation. Wetland D supports a sparse cover of Drummond's rush, willowherb, and moss.

Soils. No soils were officially described from this wetland, but the soils were examined and are hydric. No histisols or histic epipedons were found.

Jurisdictional Status. This wetland is located along the upland swale which connects Wetland C to the North Alberta Park Wetlands and would be considered jurisdictional by the Corps.

#### 5.1.6 Wetlands E1 & E2

Location/Landform. These two small wetlands are located directly east of Wetland B along the property boundary.

Classification. According to Cowardin et al. (1979), these wetlands are classified as a Palustrine system, emergent wetland class, with a saturated water regime.

Hydrology. These two small wetlands occur at seasonal seeps. There was no surface saturation at the time of assessment in early August 2005, however the wetlands are likely saturated earlier in the growing season.

Vegetation. These wetlands are dominated by arrowleaf groundsel. Other common species include bog bluegrass, waterplantain buttercup, Coulter fleabane, heartleaf bittercress, Fendler cowbane, marsh yellow cress (*Rorippa teres*), and willowherb.

Soils. No soil pits were described from either of these two small wetlands, however the soils were examined and are hydric. No histisols or histic epipedons were found.

Jurisdictional Status. These two wetlands are located approximately 25 feet east of jurisdictional waters (Wetland B) and appear to have a surface connection to Wetland B. Therefore, this wetland is likely jurisdictional. Please note, this wetland was not visited by the Corps.

#### 5.1.7 Wetland F

Location/Landform. This wetland is located directly southeast of Wetlands E1 and E2 on a west-facing slope. The majority of the wetland appears to occur off of the project site to the north.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with a saturated water regime.

Hydrology. This wetland appears to be supported by high groundwater associated with seeps. Some portions of the wetland were saturated to the surface at the time of assessment in early August 2005.

Vegetation. Wetland F supports several different herbaceous vegetation communities with varying moisture regimes. The *Cardamine cordifolia*–*Mertensia ciliata*–*Senecio triangularis* association prevails along small streamlets and at small seeps. In drier areas, the *Calamagrostis canadensis* plant association is dominant. Common plant associates include marsh marigold, waterplantain buttercup, Fendler cowbane, willowherb, common monkeyflower, and nodding bluegrass in wetter areas, and alpine timothy, Coulter's fleabane, subalpine fleabane, and false hellebore in drier areas.

Soils. One soil pit was described from this wetland. Pit 24 is a Typic Cryaqualf with a 4-inch A horizon and an 8-inch E horizon. Common and distinct mottles as well as oxidized root channels were found in the E horizon. This soil is hydric.

Jurisdictional Status. The majority of this wetland occurs north of the project site on U.S. Forest Service Lands. It appears that this unmapped portion of the wetland is directly connected to Wetland A and hence, Wetland F would meet the Corps' criteria for jurisdiction.

### 5.1.8 Wetlands G1 & G2

Location/Landform. These two linear shaped wetlands are located southeast of Wetland F in an abandoned logging road. Photo 10 depicts one of these wetlands.

Classification. According to Cowardin et al. (1979), these wetlands are classified as a Palustrine system, emergent wetland class, with a saturated water regime.

Hydrology. These wetlands appear to be supported by snowmelt runoff and possibly high groundwater associated with seeps, which is channeled into the old road. No saturation was observed at the time of assessment in early August 2005, however the soils were wet.

Vegetation. Wetlands G1 and G2 support numerous wetland plants including tufted hairgrass, Drummond's rush, smallwing sedge (*Carex microptera*), nodding bluegrass, marsh marigold, Fendler cowbane, common monkeyflower, waterplantain buttercup, arrowleaf groundsel, subalpine fleabane, and American alpine speedwell. A few upland plants are also present including beautiful sedge, creeping sibbaldia, strawberry, death camas (*Anticlea elegans*), ebony sedge (*Carex ebenea*), and yarrow. This wetland likely belongs to the *Deschampsia caespitosa* Herbaceous Association.

Soils. One soil pit was examined from these two wetlands. Pit 25 is a Cumulic Cryaquoll with an A horizon from 0 to 2 inches, and a Bw horizon from 2 to 14 inches. Distinct, common mottles and oxidized root channels were found in the Bw layer. No organic soils were found.

Jurisdictional Status. There is evidence of surface flows between these two wetlands along the old logging road in which they are situated. Water also appears to continue to flow along the old road to Wetland F. Due to the presence of a surface hydrologic connection, these two wetlands would likely be considered jurisdictional by the Corps.

### 5.1.9 Wetland H

Location/Landform. The linear shaped Wetland H is located along the eastern edge of the Central Alberta Park Wetlands and a gentle west-facing slope. The wetland is bisected by a dirt road with an approximate 18 inch diameter culvert. Photo 11 depicts this wetland.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with a saturated water regime.

Hydrology. The hydrology for this wetland is likely derived from a high groundwater table in the spring. The only saturation observed in this wetland in early August 2005 was at the junction of this wetland and the Middle Alberta Park Wetlands. Snowmelt runoff likely also contributes to the hydrology of the eastern portion of the wetland. It appears that the dirt road acts as a small dam allowing snowmelt runoff to pond in the wetland before it flows through the culvert.

Vegetation. Wetland H is dominated by both the *Calamagrostis canadensis* Herbaceous Association and the *Deschampsia caespitosa* Herbaceous Association. The *Calamagrostis canadensis* Herbaceous Association consists of dense stands of bluejoint reedgrass with tufted hairgrass, saffron butterweed, Wolf trisetum, Drummond rush, marsh marigold, American bistort, and false hellebore. The *Deschampsia caespitosa* Herbaceous Association consists of a predominance of tufted hairgrass with other wetland plants including alpine timothy, Drummond's rush, Wolf trisetum, ticklegrass (*Agrostis scabra*), saffron butterweed, waterplantain buttercup, flattop pussytoes, false hellebore and a few upland plants such as beautiful cinquefoil, yarrow, creeping sibbaldia, Vasey oatgrass (*Danthonia intermedia*), and manyray goldenrod.

Soils. Two soils were examined in this wetland. Pit 16 is Cumulic Cryaquoll with few, distinct mottles in both the A1 and A2 horizons, which extend from the soil surface to 15 inches below.

Pit 29 is an Aquic Haplocryoll with few, distinct mottles in the A1 horizon, 0 to 5 inches below the soil surface. Both soils are hydric.

Jurisdictional Status. This wetland is directly connected the Central Alberta Park Wetlands, a jurisdictional water of the U.S. This wetland would be considered jurisdictional by the Corps.

#### 5.1.10 Wetland I

Location/Landform. Wetland I is located southeast of the Central Alberta Park Wetlands between two dirt roads. The wetland occurs in a drainage swale that slopes to the south. Photo 12 depicts this wetland.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, and persistent subclass with seasonally flooded and saturated water regimes.

Hydrology. Wetland I receives water from the Central Alberta Park Wetlands to the north via an 18-inch diameter culvert under the unnamed dirt road. Water exits the south end of this wetland by the 18-inch culvert under Alberta Reservoir Road. Water also appears to flow into a wetland ditch (Ditch Wetland B) on the north side of the Alberta Reservoir Road. Portions of this wetland were saturated at the time of assessment in early August 2005.

Vegetation. Wetland I is dominated by the *Calamagrostis canadensis* Herbaceous Association. In addition to the bluejoint reedgrass which covers a majority of this wetland, there is also water sedge, false hellebore, and arrowleaf groundsel. Less well represented are Coulter fleabane, elephant's head, marsh marigold, American bistort, tufted hairgrass, northern willowherb, saffron butterweed, Wolf's trisetum, and American alpine speedwell.

Soils. One soil was examined in this wetland. The soil at Pit 33 is an Aquic Agricryoll. It has mottles and oxidized root channels below 4-inches and is classified as a hydric soil.

Jurisdictional Status. This wetland would be considered jurisdictional by the Corps as it is directly connected via a culvert to Wetland J, another jurisdictional feature.

#### 5.1.11 Wetland J

Location/Landform. Wetland J is located south of Wetland I and Alberta Park Road. This wetland slopes and drains to the south and east. Photo 13 depicts this wetland.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with a seasonally flooded water regime.

Hydrology. Wetland J receives water from the Central Alberta Park Wetlands via Wetland I to the north. The water is then collected by a small one foot wide drainage channel at the lower end of this wetland. The drainage channel slopes to the east where eventually it flows into other wetlands leading to the South Tributary to Pass Creek. A seasonal high groundwater table may also contribute to the hydrology of the area.

Vegetation. The vegetation of Wetland J mainly consists of a *Veratrum tenuipetalum* Herbaceous Association. This false hellebore community also includes some small stands of bluejoint reedgrass and water sedge. Other common associates include tufted hairgrass, hairy arnica, Coulter's fleabane, and elephant's head. Please note, some portions of the false hellebore community were excluded as wetlands because these areas contained numerous upland plants, such as slender wheatgrass, alpine bluegrass (*Poa alpina*), nodding ragwort (*Ligularia bigelovii*), beautiful cinquefoil, and yarrow.

Soils. No soils were officially described from this wetland, but the soils were examined and are hydric. One soil, however, was examined along the outer edge of this wetland in the false hellebore community. This soil (Pit 56) was classified as an Aquic Haplocryoll with a few distinct mottles from 9 to 12-inches below the soil surface. The soil is hydric, but does not occur in a wetland as it lacks a wetland hydrology and a predominance of hydrophytic vegetation.

Jurisdictional Status. This wetland would be considered jurisdictional by the Corps as there are surface drainage features and other wetlands leading to the South Tributary to Pass Creek.

#### 5.1.12 Wetland K Complex

Location/Landform. These four small wetlands occur in an old logging road downslope and southeast of Wetland J.

Classification. According to Cowardin et al. (1979), these wetlands are classified as a Palustrine system, emergent wetland class, with saturated and seasonally flooded water regimes.

Hydrology. The hydrology for these wetlands appears to be derived from local seeps, however snowmelt runoff likely also contributes to their hydrology. Portions of these wetlands were saturated at the surface at the time of assessment in early August 2005.

Vegetation. The Wetland K complex is dominated by tufted hairgrass, Fendler cowbane, and Rocky Mountain rush (*Juncus saximontanus*). Also present are common monkeyflower, monkshood, arrowleaf groundsel, Coulter fleabane, smallwing sedge, Wolf's trisetum, hairy arnica, American alpine speedwell, bog orchid, nodding ragwort, false hellebore, and a few young planeleaf willows. Wetland mosses are also common in this wetland. The vegetation in these wetlands appears to belong to the *Deschampsia caespitosa* herbaceous plant association.

Soils. No soils were officially described from these wetlands, however the soils were examined and are hydric. No histosols or soils with histic epipedons were found.

Jurisdictional Status. This wetland complex would be considered jurisdictional by the Corps as there are surface drainage features from the wetlands to the South Tributary to Pass Creek.

#### 5.1.13 Wetland L

Location/Landform. Wetland L is located directly south of the South Tributary to Pass Creek near the eastern project boundary. This wetland is located both on a terrace above the creek as well as in an old oxbow of the creek. Photo 14 depicts this site.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with a saturated water regime.

Hydrology. This wetland appears to have a groundwater table at or near the surface throughout the majority of the growing season. In addition, the northern portion of this wetland likely has a hydrology linked to the South Tributary to Pass Creek.

Vegetation. The southern portion of Wetland L, located on a terrace above the creek, is dominated by arrowleaf groundsel. Other plants present include monkshood, chiming bells, false hellebore, Coulter fleabane, marsh marigold, hairy arnica, Fendler cowbane, and willowherb. A few upland plants such as ebony sedge, lovage (*Ligusticum porteri*), and Richardson's geranium (*Geranium richardsonii*) are present as well. In the old oxbow next to the creek, brook saxifrage, common monkeyflower, and marsh marigold predominate. Most of the vegetation appears to belong to the *Senecio triangularis* plant association, however other herbaceous dominated associations could occur depending on the dominant plant species.



Soils. One soil was examined from this wetland. Pit 53 is a Cumulic Cryaquoll with distinct, few mottles in the A1 and A2 horizons from 0 to 14 inches below the soil surface.

Jurisdictional Status. This wetland would be considered jurisdictional by the Corps as it is directly connected to the South Tributary to Pass Creek on USFS land, just east of the project site.

#### 5.1.14 Wetland M

Location/Landform. Wetland M is located between Tributary Wetlands G and H in the southeast portion of the project site. The majority of the wetland appears to be on a gentle slope with the northern "neck" of the wetland sloping to the northwest. Photo 15 depicts this wetland.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with a saturated water regime.

Hydrology. Wetland M likely has a groundwater table at or near the surface in the beginning of the growing season, but later dries out. At the time of assessment in late August 2005 there was no saturation in either of the 16 inch deep soil profiles examined.

Vegetation. The majority of this wetland belongs to the *Calamagrostis canadensis* Herbaceous Association. Bluejoint reedgrass forms a dense stand in this wetland with occasional stands of false hellebore. Other wetland species present include alpine timothy, Coulter fleabane, hairy arnica, willowherb, saffron butterweed, Rocky Mountain fringed gentian, tufted hairgrass, Wolf's trisetum, and umbrella starwort (*Stellaria umbellata*). Some yarrow, an upland plant, is present as well.

Soils. Two soils were described from this wetland. Pit 66 is an Aquic Haplocryoll with common distinct mottles and oxidized root channels found in the A2 horizon, from 3 to 9 inches below the soils surface. Pit 67 is a Typic Cryaquoll with a few distinct mottles found from 10 to 12 inches, and common distinct mottles found from 12 to 14 inches below the soil surface. These soils are both hydric.

Jurisdictional Status. This wetland would be considered jurisdictional by the Corps as it is contiguous with Tributary Wetland G.

#### 5.1.15 Wetland N

Location/Landform. Wetland N is located near the western project boundary, between Alberta Park Road and a dirt road which is used as a ski trail by Wolf Creek Ski Area.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with saturated and seasonally flooded water regimes.

Hydrology. Water for this wetland is mainly provided by seeps, however snowmelt runoff also collects in the lower portion of this wetland where it is directed into a culvert under the new skiway. At the time of assessment, surface saturation was observed in the upper portion of this wetland and also in the lower portion near the culvert. A two foot wide bed and bank channel connects the two sections of this wetland.

Vegetation. Wetland N is dominated by arrowleaf groundsel and smallwing sedge. Also present are common monkeyflower, brook saxifrage, bluejoint reedgrass, chiming bells, northern willowherb, bishop's cap, Coulter fleabane, Fendler cowbane, and alpine timothy.

Soils. No soils were officially described from this wetland, but the soils were examined and are hydric. No histisols or histic epipedons were found.

Jurisdictional Status. Water from this wetland flows through an 18-inch diameter culvert under the new skiway into the Central Alberta Park Wetlands. Thus, this wetland is connected to waters of the U.S. and would be considered jurisdictional by the Corps.

#### 5.1.16 Wetland O

Location/Landform. Wetland O is located at the southwest corner of the Central Alberta Park Wetland just north of Alberta Lake Road. This wetland occurs in a small depression next to the road.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with saturated and seasonally flooded water regimes.

Hydrology. Water for this wetland appears to be derived from snowmelt runoff and spring ponding. No culvert could be located that would transmit water under Alberta Lake Road.

Vegetation. Wetland O is characterized by a dense stand of water sedge with some bluejoint reedgrass around the edges, and belongs to the *Carex aquatilis* Herbaceous plant association.

Soils. No soils were officially described for this site, however the soils were examined and are hydric. No histosols or soils with histic epipedons are present.

Jurisdictional Status. This wetland is located about seven feet south of the Central Alberta Park Wetlands. These two wetlands appear to be separated by an area of high topography that may have been used as a road. This wetland would be considered jurisdictional by the Corps because it neighbors the Central Alberta Park Wetlands.

#### 5.1.17 Wetland P

Location/Landform. Wetland P is located near the intersection of Tributary Wetland C and Tributary Wetland D.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, forested wetland class, needle-leaved evergreen subclass with saturated water regimes.

Hydrology. Water for this wetland is provided by a seep.

Vegetation. Wetland P occurs in an Engelmann spruce-subalpine fir forest with an understory comprised of arrowleaf groundsel, heartleaf bittercress, chiming bells, millet woodrush, and numerous others.

Soils. No soils were officially described for this site, however the soils were examined and are hydric. No histosols or soils with histic epipedons are present.

Jurisdictional Status. This wetland would likely be considered jurisdictional by the Corps as it neighbors Tributary Wetland B and Tributary Wetland D.

#### 5.1.17 Wetland Q

Location/Landform. Wetland Q is located near the intersection of Alberta Lake Road and an unnamed road which traverses to the south to the South Tributary to Pass Creek. The wetland occurs in a small depression. Please note, this wetland is part of a larger wetland that occurs off of the project site and has not been mapped.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with a saturated water regime.

Hydrology. Water for this wetland appears to be provided by spring ponding. No culvert was observed under Alberta Lake Road.

Vegetation. Wetland Q supports a dense cover of beaked sedge and water sedge. Also present are tufted hairgrass, smallwing sedge, bluejoint reedgrass, and false hellebore.

Soils. No soils were officially described for this site, however the soils were examined and are hydric. No histosols or soils with histic epipedons are present.

Jurisdictional Status. This wetland would likely be considered jurisdictional by the Corps as those portions off of the project site appear to be directly connected to the South Tributary to Pass Creek.

## 5.2 Tributary Wetlands

The Tributary Wetlands occur along perennial, ephemeral, and intermittent streams throughout the project site. Eight Tributary Wetlands are described below, however, portions of these wetlands are part of the larger Alberta Park Wetland Complex. These wetlands total 7.46 acres or 12% of all jurisdictional wetlands found on the project site.

### 5.2.1 North Tributary to Pass Creek Wetlands

Location/Landform. The North Tributary to Pass Creek is located in the extreme northwest portion of the project site and flows east through the North Alberta Park Wetland complex. Photos 16 and 17 depict portions of this Tributary Wetland.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, forested or scrub-shrub wetland class, needle-leaved evergreen or broadleaf deciduous subclass with seasonally flooded and saturated water regimes.

Hydrology. The North Tributary to Pass Creek is a perennial stream. The eastern portion of this stream has a stream bed approximately 6 feet in width and is incised approximately three feet. The western portion of the stream channel has an approximate 10 ft wide stream bed.

Vegetation. The eastern portion of the North Tributary to Pass Creek is dominated by planeleaf willow up to five feet in height, with an understory of heartleaf bittercress, water sedge, Fendler cowbane, arrowleaf groundsel, common monkeyflower, and willowherb. Where the creek is more incised, several upland species occur including strawberry, yarrow, dandelion (*Taraxacum officinale*), and fringed brome (*Bromopsis canadensis*). Several mature and young Engelmann spruce occur as well. Please note, the area calculation for this portion of the wetland is included in the North Alberta Park Wetlands.

The western portion of this drainage traverses through an Engelmann spruce–subalpine fir forest. The vegetation along the stream is mainly comprised of arrowleaf groundsel, chiming bells, and heartleaf bittercress. Other common associates include Fendler cowbane, common monkeyflower, Brandegees fumewort (*Corydalis caseana* ssp. *brandegei*), cow parsnip (*Heracleum sphondylium* ssp. *montanum*), millet woodrush, and false hellebore. Numerous hillside seeps also occur along the western portion of the stream, especially on the steep north-facing hillsides. These seepage areas generally support a dense cover of Brandegees fumewort along with arrowleaf groundsel, chiming bells, Fendler cowbane, bog bluegrass, bishop's cap, and brook saxifrage.

Soils. No soils have been officially described from within this wetland, however the soils were examined and are hydric. Pits 43 and 45 were, however, described from just outside of the wetland boundary. Pit 43 is an Oxyaquic Haplocryoll, a non-hydric soil, with a few faint mottles in the A2 horizon which is too light in color (Chroma of 3) to be classified as a hydric soil. Pit 45 is also an Oxyaquic Haplocryoll, another non-hydric soil.

Jurisdictional Status. This wetland occurs along a perennial tributary to Pass Creek and therefore would be considered jurisdictional by the Corps.

### 5.2.2 South Tributary to Pass Creek Wetlands

Location/Landform. The South Tributary to Pass Creek is located in the central portion of the project site. This perennial stream flows east to Alberta Park Reservoir, located east of the project site. Photo 18 depicts a portion of this wetland.

Classification. According to Cowardin et al. (1979), the majority of this wetland is classified as a Palustrine system, emergent wetland class, with seasonally flooded and saturated water regimes. However, some wetlands in the scrub-shrub wetland class, broadleaf deciduous subclass also occur.

Hydrology. Water for these wetlands is provided by the perennial flows found in this stream. In addition, numerous seeps and a few springs are present along the stream corridor.

Vegetation. Three vegetation associations occur along the South Tributary to Pass Creek. The most common is the *Cardamine cordifolia*-*Mertensia ciliata*-*Senecio triangularis* Herbaceous Vegetation association which is found adjacent to the perennial stream. Besides the heartleaf bittercress, chiming bells, and arrowleaf groundsel, other common species include Parry's primrose (*Primula parryi*), Fendler cowbane, brook saxifrage, bishop's cap, millet woodrush, common monkeyflower, Brandegee fumewort, willowherb, water sedge, American bistort, tufted hairgrass, giant red Indian paintbrush (*Castilleja miniata*), and bush honeysuckle (*Distegia involucrata*).

Seeps occur on the north-facing and south-facing slopes above the stream. These seeps are dominated by bishop's cap, Waterplantain buttercup, globeflower (*Trollius albiflorus*), and moss, however showy alpine groundsel (*Ligularia amplexans*), arrowleaf groundsel, and marsh marigold also occur.

Stands of planeleaf willow with beaked sedge and water sedge are found along the stream as well. These areas belong to the *Salix planifolia*-*Carex utriculata* or the *Salix planifolia*-*Carex aquatilis* plant associations.

Soils. One soil has been described from this wetland. Pit 54 is found on the terrace above the stream near the bottom of the Alberta Lift. This soil is disturbed, but hydric. It is classified as a Typic Cryaquoll with common to many distinct mottles through the soil profile. The soil occurs near many seeps and a spring. The majority of soils along the South Tributary to Pass Creek, however, are not disturbed. Finally, several areas of histosols and/or histic epipedons occur in this wetland.

Jurisdictional Status. This wetland would be considered jurisdictional by the Corps as it borders or is contiguous with a perennial tributary to Pass Creek.

### 5.2.3 Tributary Wetland A

Location/Landform. Tributary Wetland A is located in the northwestern portion of the project site, southwest of the North Alberta Park Wetlands. The wetland slopes and drains to the northeast.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with seasonally flooded and saturated water regimes.

Hydrology. Water for this wetland is provided by numerous seeps which occur along the drainage. In addition, there is a small one foot wide intermittent drainage channel in this wetland. The water is transmitted under two roads via 18-inch diameter culverts which permit the water to

flow into the North Alberta Park Wetlands. At the time of assessment in early and late August 2005, there was a small flow of water in this wetland and most soils were saturated to the surface.

Vegetation. Tributary Wetland A is dominated by arrowleaf groundsel and Fendler cowbane. Other common wetland species include bluejoint reedgrass, brook saxifrage, bishop's cap, chiming bells, common monkeyflower, hairy arnica, millet woodrush, globeflower, Fendler cowbane, alpine timothy, and Drummond's rush. The wetland vegetation is classified as the *Cardamine cordifolia*-*Mertensia ciliata*-*Senecio triangularis* Herbaceous Association. Upland plants occur along the edges of this wetland including nodding ragwort, a few young Engelmann spruce, and gooseberry currants (*Ribes montigenum*).

Soils. No soils have been officially described from within this wetland, however the soils were examined and are hydric. No organic soils have been mapped in this wetland, however they do occur in the North Alberta Park Wetlands located just northeast of Tributary Wetland A.

Jurisdictional Status. This wetland would be considered jurisdictional by the Corps as it is contiguous with the North Alberta Park Wetlands.

#### 5.2.4 Tributary Wetlands B & C

Location/Landform. These wetlands occur on the southwestern portion of the project site along perennial drainages which flow into the western end of the South Tributary to Pass Creek. Photo 19 depicts these wetlands.

Classification. According to Cowardin et al. (1979), the lower, northern portions of these wetlands are classified as a Palustrine system, forested wetland class, needle-leaf evergreen subclass, with a saturated and seasonally flooded water regime. The upper, southern portions of these wetlands are classified as a Palustrine system, emergent wetland class.

Hydrology. Water for Tributary Wetlands B and C is provided by numerous seeps that occur along these drainages, as well as the perennial flow of water in the stream. Each of these stream channels has an approximate stream bed width of two to three feet. A two foot diameter culvert transmits the flows of Tributary Wetland C under an access road.

Vegetation. The lower portion of these drainages traverses through an Engelmann spruce-subalpine fir forest, where there is a dense growth of native perennial forbs including heartleaf bittercress, chiming bells, arrowleaf groundsel, brook saxifrage, Fendler cowbane, Parry's primrose, and Brandegees fumewort. Less common are globeflower, bishop's cap, common monkeyflower, willowherb, waterplantain buttercup, Barbey's larkspur (*Delphinium barbeyi*), alpine bistort (*Bistorta vivipara*), and giant red Indian paintbrush. The scattered upland plants which often occur in the outer edges of the wetland include strawberry, American alpine speedwell, lovage, Richardson's geranium, Whipple penstemon (*Penstemon whippleanus*), fringed brome, splitleaf Indian paintbrush (*Castilleja rhexifolia*), and whortleberry (*Vaccinium myrtillus* ssp. *oreophilum*). The upper portion of Tributary Wetland C consists of the same suite of herbaceous and shrubby species, however the overstory has been thinned and there are numerous regenerating spruce and fir.

Soils. One soil pit was examined from this wetland. Pit 55 is a Typic Cryaquoll with a few dominant mottles in the upper six inches of soil and a few faint mottles from 6 to 10 inches below the soil surface. This soil is hydric. No histosols or soils containing histic epipedons were found.

Jurisdictional Status. These wetlands would be considered jurisdictional by the Corps as they are contiguous with and flow into the South Tributary to Pass Creek.

#### 5.2.5 Tributary Wetland D

Location/Landform. Tributary Wetland D is located east of Tributary Wetland C and also flows into the South Tributary to Pass Creek.

Classification. According to Cowardin et al. (1979), the lower, northern portion of this wetland is classified as a Palustrine system, forested wetland class, needle-leaf evergreen subclass, with a saturated and seasonally flooded water regime. The upper, southern portion of this wetland is classified as a Palustrine system, emergent wetland class.

Hydrology. This wetland is supported by snowmelt runoff as well as seeps that mainly occur in the upper end of the drainage. The wetland flanks a 2 to 3 ft wide ephemeral stream channel which was mostly dry at the time of assessment in August 2005. The upper portion of the drainage, however, has a small volume of water which flows below surface after a short distance.

Vegetation. The vegetation of Tributary Wetland D is mainly comprised of cow parsnip, arrowleaf groundsel, and millet woodrush. Also present are splitleaf Indian paintbrush, chiming bells, common monkeyflower, Parry's primrose, globeflower, Barbey's larkspur, marsh marigold, bishop's cap, and brook saxifrage.

Soils. No soils have been officially described from within this wetland, however the soils were examined and are hydric. No organic soils have been mapped in this wetland

Jurisdictional Status. This wetland would be considered jurisdictional by the Corps as it is contiguous with the North Alberta Park Wetlands.

#### 5.2.6 Tributary Wetland E

Location/Landform. Tributary Wetland E is located along a drainage swale 700 ft southeast of Tributary Wetland D, and flows northeast into the South Alberta Park Wetlands. Photo 20 depicts the southern portion of this wetland.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with seasonally flooded and saturated water regimes.

Hydrology. The hydrology for Tributary Wetland E is provided by seeps and several springs. A small pond is also present in the southern portion of the wetland. The majority of this wetland was saturated to the surface at the time of assessment in late August 2005.

Vegetation. Tributary Wetland E supports a dense growth of the native wetland forbs marsh marigold and arrowleaf groundsel. Numerous other wetland species are present as well, including small-headed sedge, Drummond's rush, elephant's head, slender bog orchid (*Limnorchis stricta*), hairy arnica, planeleaf willow, bishop's cap, brook saxifrage, subalpine fleabane, Fendler cowbane, giant red Indian paintbrush, bluejoint reedgrass, tufted hairgrass, and Wolf's trisetum.

Soils. No soils have been officially described from this wetland, however they are hydric. Organic soils (histic epipedons and/or histosols) have been mapped along this tributary wetland.

Jurisdictional Status. This wetland is contiguous with the South Alberta Park Wetlands and would be considered jurisdictional by the Corps.

#### 5.2.7 Tributary Wetland F

Location/Landform. Tributary Wetland F is located southeast of Tributary Wetland E in the southeastern portion of the project site. This wetland occurs in a drainage swale that slopes northeast to Tributary Wetland G. Photo 21 depicts this wetland.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with seasonally flooded and saturated water regimes.

Hydrology. This wetland has an intermittent stream. In general, the southern upper portions of the stream appear to have flowing water during the entire growing season, but the lower portions are ephemeral. Numerous seeps and snowmelt runoff also provide water to the wetland.

Vegetation. Tributary Wetland F traverses through an open spruce–fir forest and supports a dense herbaceous growth of arrowleaf groundsel and marsh marigold in wetter areas, and bluejoint reedgrass in drier areas. Other common wetland plant species found include Parry's primrose, Brandegees fumewort, giant red Indian paintbrush, brook saxifrage, bishop's cap, chiming bells, heartleaf bittercress, smallwing sedge, and tufted hairgrass. Lovage and nodding ragwort, both upland species, occur as well.

Soils. No soils have been officially described from this wetland, however they are hydric. A few areas of organic soils (histic epipedons and/or histosols) were found in this wetland.

Jurisdictional Status. This wetland is contiguous with the South Alberta Park Wetlands and would be considered jurisdictional by the Corps.

#### 5.2.8 Tributary Wetland G

Location/Landform. This wetland is located east of Tributary Wetland F on a north-facing drainage swale in the southern portion of the project site.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with seasonally flooded and saturated water regimes.

Hydrology. Wetland G contains both a perennial stream and an intermittent stream which is located on the east fork of the wetland. Numerous seeps are present along this drainage as well.

Vegetation. Like Wetland F, the majority of this wetland supports a dense herbaceous growth of arrowleaf groundsel and marsh marigold in wetter areas, and bluejoint reedgrass in drier areas. Other common wetland plant species found include Parry's primrose, Brandegees fumewort, giant red Indian paintbrush, brook saxifrage, bishop's cap, chiming bells, heartleaf bittercress, smallwing sedge, and tufted hairgrass. Lovage and nodding ragwort, both upland species, occur as well.

The East Fork of Tributary Wetland G contains an intermittent stream bordered by arrowleaf groundsel, Fendler cowbane, heartleaf bittercress, chiming bells, marsh marigold, cow parsnip, and others.

Soils. No soils have been officially described from this wetland, however they are hydric. A few areas of organic soils (histic epipedons and/or histosols) were found in this wetland.

Jurisdictional Status. Tributary Wetland G flows into and is contiguous with the South Alberta Park Wetlands and would be considered jurisdictional by the Corps.

#### 5.2.8 Tributary Wetland H

Location/Landform. Tributary Wetland H is located in the extreme southeast corner of the project site in drainage swales that flow to the north.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, forested wetland class, needle-leaf evergreen subclass, with seasonally flooded and saturated water regimes.

Hydrology. Tributary Wetland H is supported by both snowmelt runoff as well as seeps. The lower portion of the wetland contains an ephemeral stream approximately 3 ft wide, while the upper portion of the wetland supports a perennial stream 2 ft wide. The stream channel also crosses two roads.

Vegetation. This narrow wetland drainage occurs in a dense Engelmann spruce–subalpine fir forest. The understory mainly includes arrowleaf groundsel, chiming bells, and Coulter fleabane; however, bishop’s cap, heartleaf bittercress, and willowherb may also be present.

Soils. Although no soils were described from this wetland, the soils are hydric. No organic soils were found here.

Jurisdictional Status. Tributary Wetland H is contiguous to the South Alberta Park wetlands and would be considered jurisdictional by the Corps. Please note, this connection occurs off of the project site.

### 5.3 Isolated Wetlands

Isolated wetlands have no surface hydrologic connection to other waters of the U.S, as evidenced by a drainage with a defined "bed and bank," or a vegetated swale with evidence of water flow, including sediment deposition or debris (drift) lines. A total of 29 isolated wetlands occur on the project site. Each is described below. There are a total of 2.49 acres of isolated wetlands on the project site, which comprise approximately 92% of all the non-jurisdictional wetlands found.

#### 5.3.1 Isolated Wetland 1

Location/Landform. This wetland is located on a northwest-facing slope east of the drainage between the Middle and Lower Alberta Park Wetlands.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, forested wetland class, needle-leaf evergreen subclass, with a saturated water regime.

Hydrology. This wetland occurs at a small seasonal seep.

Vegetation. Isolated Wetland 1 occurs in the understory of an Engelmann spruce–subalpine fir forest and consists of Fendler cowbane along with scattered arrowleaf groundsel, Coulter fleabane, globeflower, bishop’s cap, willowherb, and false hellebore.

Soils. No soils have been described from this wetland, however the soils were examined and are hydric.

Jurisdictional Status. Isolated Wetland 1 was visited by Ms. Anita Culp of the Corps on September 19, 2005, who verified that this wetland has no surface hydrologic connection to waters of the U.S. and hence is isolated and non-jurisdictional.

#### 5.3.2 Isolated Wetland 2

Location/Landform. This wetland is located on a gentle northwest-facing slope east of the drainage between the Middle and Lower Alberta Park Wetlands. Photos 22 and 23 illustrate this wetland.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine System, emergent wetland class, with a saturated water regime.

Hydrology. This wetland is likely supported by high groundwater associated with a perennial seep located in the vicinity of Soil Pit 21. Soils were saturated near Pit 21 at the time of assessment in early August 2005.



Vegetation. Isolated Wetland 2 supports two different vegetation types. The first, located in the area of saturated organic soils, is composed of a dense stand of arrowleaf groundsel with marsh marigold, Coulter fleabane, Fendler cowbane, Drummond's rush, willowherb, marsh yellow cress, bishop's cap, and largeleaf avens. In the areas of drier soils, bluejoint reedgrass predominates. Common associates in this zone include saffron butterweed, Coulter fleabane, tufted hairgrass, American bistort, waterplantain buttercup, and isolated false hellebore plants.

Soils. Two soils were examined in this wetland. Soil Pit 21 is a Histic Cryaquoll with a 9-inch organic layer. The A horizon, from 9 to 16 inches below the soil surface, has a few distinct mottles and is organic rich. Soil Pit 22 is an Aquic Haplocryoll with a few distinct mottles in the A horizon from 0 to 7-inches, and a few faint mottles in the Bw horizon from 7 to 10 inches below the soil surface. Both of these soils are hydric.

Jurisdictional Status. Isolated Wetland 2 was visited by Ms. Anita Culp of the Corps on September 19, 2005, who verified that this wetland is isolated and hence non-jurisdictional.

### 5.3.3 Isolated Wetland 3

Location/Landform. This wetland is located east of the drainage between the Middle and Lower Alberta Park Wetlands and south of Isolated Wetland 2. The site lies on a gentle northwest-facing slope.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine System, emergent wetland class, with a saturated water regime.

Hydrology. The hydrology of this wetland is likely provided by a seasonal seep. There was no saturation within the wetland at the time of assessment in early August 2005.

Vegetation. Isolated Wetland 3 consists of a dense stand of arrowleaf groundsel with chiming bells, heartleaf bittercress, Fendler cowbane, common monkeyflower, marsh yellow cress, bog bluegrass, willowherb, and bluejoint reedgrass. A few upland plants are present along the wetland edges, including strawberry, gooseberry currant, fringed brome, blue wildrye (*Elymus glaucus*), Richardson's geranium, and nodding ragwort,

Soils. One soil was described from this wetland. Soil Pit 19 is a Typic Cryaqualf with a 6-inch A horizon, and a 7-inch Bt horizon with many distinct mottles and oxidized root channels. This soil is hydric.

Jurisdictional Status. Isolated Wetland 3 was visited by Ms. Anita Culp of the Corps on September 19, 2005, who verified that there is no surface hydrologic connection to other waters of the U.S. and that this wetland is isolated and non-jurisdictional.

### 5.3.4 Isolated Wetland 4

Location/Landform. This wetland is located east of the drainage between the Middle and Lower Alberta Park Wetlands and south of Isolated Wetland 3. The site lies on a gentle southwest-facing slope.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine System, emergent wetland class, with a saturated water regime.

Hydrology. The hydrology of this wetland appears to be controlled by a seasonal seep. There was no saturation within the wetland at the time of assessment in early August 2005. The hydrology of this wetland appears to be marginal.

Vegetation. This wetland consists of a stand of arrowleaf groundsel with heartleaf bittercress, Coulter fleabane, chiming bells, bog bluegrass, millet woodrush, Drummond's rush, Fendler

cowbane, and false hellebore. Numerous upland plants also occur including bluntseed sweet cicely (*Osmorhiza depauperata*), gooseberry currant, and skunkleaf polemonium (*Polemonium pulcherrimum ssp. delicatum*).

Soils. One soil pit was described from this wetland. Soil Pit 20 is an Aquic Haplocryoll with a few distinct mottles in the A horizon and a few faint mottles in the Bw horizon. Only one oxidized root channel was found. This soil is hydric.

Jurisdictional Status. Isolated Wetland 4 was visited by Ms. Anita Culp of the Corps on September 19, 2005, who verified that this wetland is isolated and hence non-jurisdictional.

### 5.3.5 Isolated Wetland 5

Location/Landform. Isolated Wetland 5 is located just east of Wetland C on a gentle west-facing slope.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine System, emergent wetland class, with a saturated water regime.

Hydrology. The hydrology for this wetland appears to be controlled by a seasonal seep. Soils were wet but not saturated at the time of assessment in early August 2005.

Vegetation. This wetland is composed of bluejoint reedgrass and Fendler cowbane. Other common wetland plant associates include arrowleaf groundsel, willowherb, waterplantain buttercup, and marsh marigold.

Soils. No soils were described from this wetland, however they were examined and are hydric. Organic soils do not occur here.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

### 5.3.6 Isolated Wetland 6

Location/Landform. Isolated Wetland 6 is located northeast of the Central Alberta Park Wetlands on a fairly level landscape, however there does appear to be a gentle slope to the southeast. Photo 24 depicts this wetland.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine System, emergent wetland class, with a saturated water regime.

Hydrology. The hydrology of this wetland appears to be controlled by a seasonal seep. There was no saturation within the wetland at the time of assessment in early August 2005.

Vegetation. The vegetation of Isolated Wetland 6 is comprised of a dense stand of bluejoint reedgrass with occasional stands of false hellebore. Also present are saffron butterweed, tufted hairgrass, flattop pussytoes, and Eastwood's podistera.

Soils. One soil was described from this wetland. Soil Pit 26 is a Cumulic Cryaquoll with common distinct mottles and oxidized root channels in the A2 horizon from 3 to 12-inches below the soil surface. This soil is hydric.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

#### 5.3.7 Isolated Wetland 7

Location/Landform. Isolated Wetland 7 occurs on a gentle southwest-facing slope amid much deadfall.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine System, emergent wetland class, with a saturated water regime.

Hydrology. The hydrology of this wetland is provided by a seasonal seep. There was no saturation within this wetland at the time of assessment in early August 2005.

Vegetation. Arrowleaf groundsel and Coulter's fleabane are the predominant wetland species in Isolated Wetland 7. Other plants present include bog bluegrass, a wetland species, and numerous non-wetland plants including strawberry, fringed brome, bluntseed sweet cicely, and tall blacktip ragwort (*Senecio atratus*).

Soils. One soil was described from this wetland. Soil Pit 28 is an Aquic Haplocryoll with a few distinct mottles and oxidized root channels in the A horizon found from 0 to 4-inches below the soil surface. This soil is hydric.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

#### 5.3.8 Isolated Wetland 8

Location/Landform. This wetland is located in the eastern portion of the project site in a depression. Photo 25 depicts this wetland.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with saturated and semi-permanently flooded water regimes.

Hydrology. The hydrology for this wetland is provided by seeps along the eastern portion of the wetland and by snowmelt runoff. The center of the wetland contains shallow standing water throughout much of the growing season.

Vegetation. The open water habitat of this wetland supports a sparse cover of marsh yellow cress. Adjacent to the ponded water is a dense stand of beaked sedge with occasional tufted hairgrass plants. The outer edges of the wetland in the shade of Engelmann spruce-subalpine fir forest is bluejoint reedgrass mixed with tufted hairgrass, false hellebore, saffron butterweed, marsh marigold, and American alpine speedwell.

Soils. One soil was described from this wetland. Soil Pit 52 is a Typic Cryaquepts with a few distinct mottles in the 5-inch thick A horizon, and a few faint mottles in the Bw horizon from 5 to 13 inches below the soil surface. Oxidized root channels are also present. This soil is hydric.

Jurisdictional Status. Isolated Wetland 8 was visited by Ms. Anita Culp of the Corps on September 19, 2005, who verified that this wetland is isolated and hence non-jurisdictional.

#### 5.3.9 Isolated Wetland 9

Location/Landform. Isolated Wetland 9 is located southeast of the Central Alberta Park Wetlands. The site slopes and drains to the south.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine System, emergent wetland class, with a saturated water regime.

Hydrology. The hydrology for this wetland is mainly provided by seeps, however snowmelt runoff also contributes to the hydrology. At the time of assessment, portions of this wetland were saturated to the surface.

Vegetation. The northwestern portion of this wetland occurs in a small depression that is drained by a culvert under the road. This area is dominated by wetland plants including bluejoint reedgrass, water sedge, Coulter fleabane, and tufted hairgrass. A few upland plants also occur including nodding ragwort, Richardson's geranium, beautiful cinquefoil, and ebony sedge.

The larger, southern portion of the wetland supports dense stands of arrowleaf groundsel mixed with false hellebore and Fendler cowbane. Other wetland plants include Coulter fleabane, hairy arnica, hemlock parsley, marsh marigold, bog bluegrass, bluejoint reedgrass, millet woodrush, willowherb, and umbrella starwort. At the seeps, the wetland vegetation is dominated by mosses with Drummond rush, Wolf's trisetum, willowherb, and American alpine speedwell.

Soils. One soil was described from this wetland. Soil Pit 30 is a Typic Cryaquoll with many prominent mottles and oxidized root channels throughout the soil profile. This soil is hydric. No organic soils were found.

Jurisdictional Status. Isolated Wetland 9 was visited by Ms. Anita Culp of the Corps on September 19, 2005, who verified that this wetland is isolated and hence non-jurisdictional.

#### 5.3.10 Isolated Wetland 10

Location/Landform. Isolated Wetland 10 is located on a gentle south-facing slope just west of Isolated Wetland 9.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine System, emergent wetland class, with a saturated water regime.

Hydrology. The hydrology for this wetland is provided by a seasonal seep, however no saturation was observed within the wetland at the time of assessment in early August 2005. The wetland hydrology may be marginal here.

Vegetation. Bluejoint reedgrass is the dominant vegetation at this wetland. Also present are the wetland plants Coulter fleabane, Drummond's rush, bog bluegrass, willowherb, American alpine speedwell, and arrowleaf groundsel, and the upland plants *Geranium richardsonii*, gooseberry currant, strawberry, nodding ragwort.

Soils. One soil was described from this wetland. Soil Pit 31 is an Aquic Haplocryoll with a few distinct mottles in the A2 horizon from 5 to 8 inches below the soil surface, and a few faint mottles in the Bw horizon from 8 to 11 inches below the soil surface. A few oxidized root channels were also found. This soil is hydric. No organic soils are present in this wetland.

Jurisdictional Status. Isolated Wetland 10 was visited by Ms. Anita Culp of the Corps on September 19, 2005, who verified that this wetland is isolated and hence non-jurisdictional.

#### 5.3.11 Isolated Wetland 11

Location/Landform. Isolated Wetland 11 is located west of Isolated Wetland 10 on a gentle south-facing slope just below a dirt road.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine System, emergent wetland class, with a saturated water regime.

Hydrology. The hydrology for this marginal wetland appears to be due to a seasonal seep, however no saturation was observed within the wetland at the time of assessment in early August

2005. This wetland may also receive water from the Central Alberta Park Wetlands located just north of the road which is adjacent to this wetland. However, there is no surface hydrologic connection to any other waters of the U.S.

Vegetation. This wetland is dominated by dense stands of bluejoint reedgrass and water sedge. Also present are subalpine fleabane, smallwing sedge, yarrow, and beautiful sedge.

Soils. One soil was described from this wetland. Soil Pit 32 is a Typic Cryaquoll with a few distinct mottles in the A1 and A2 horizons, which are 10 inches thick. Oxidized root channels were also found. This soil is hydric.

Jurisdictional Status. Isolated Wetland 11 was visited by Ms. Anita Culp of the Corps on September 19, 2005, who verified that this wetland is isolated and hence non-jurisdictional.

### 5.3.12 Isolated Wetland 12

Location/Landform. Isolated Wetland 12 is located east of Wetland 1 and north of the Alberta Park Reservoir Road on a south-facing slope.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine System, emergent wetland class, with a saturated water regime.

Hydrology. The hydrology for this wetland appears to be provided by a seasonal seep. There was no saturation in this wetland at the time of assessment in early August 2005.

Vegetation. Isolated Wetland 12 is dominated by bluejoint reedgrass. Common associates include both wetland and upland plants: subalpine fleabane, false hellebore, Richardson's geranium, nodding ragwort, fringed brome, strawberry, and yarrow. One small area of this wetland which may be the seasonal seep is dominated by marsh marigold with alpine bistort, willowherb, and Eastwood's podistera.

Soils. One soil was described from this wetland. Soil Pit 51 is a Typic Cryaquoll with a few distinct mottles in the Bw1 horizon from 6 to 12 inches below the soil surface, and a few common mottles in the Bw2 horizon from 12 to 14 inches. Oxidized root channels are also found below 6 inches. This soil is hydric.

Jurisdictional Status. Isolated Wetland 12 was visited by Ms. Anita Culp of the Corps on September 19, 2005, who verified that this wetland is isolated and hence non-jurisdictional.

### 5.3.13 Isolated Wetland 13

Location/Landform. Isolated Wetland 13 is located in the eastern portion of the project site, approximately 440 ft north of Alberta Park Reservoir Road on a south-facing slope. Photo 26 depicts this wetland.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine System, emergent wetland class, with a saturated water regime.

Hydrology. Hydrology for this wetland is provided by a perennial seep. Portions of this wetland were saturated to the surface at the time of assessment in early August 2005.

Vegetation. Isolated Wetland 13 occurs in a small opening of an Engelmann spruce –subalpine fir forest, and arrowleaf groundsel is the dominant wetland vegetation of this site. Also present are common monkeyflower, willowherb, bog bluegrass, Fendler cowbane, heartleaf bittercress, smallwing sedge, Coulter fleabane, bluejoint reedgrass, and much moss.

Soils. No soils were officially described for this wetland, however the soils were examined and are hydric. No histosols or soils with histic epipedons are present.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

#### 5.3.14 Isolated Wetland 14

Location/Landform. Isolated Wetland 14 is located along the western property boundary downslope of Alberta Park Road on an east-facing slope.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine System, emergent wetland class, with a saturated water regime.

Hydrology. This wetland has a perennial seep. Soils were saturated to the surface at the time of assessment in late August 2005.

Vegetation. Arrowleaf groundsel is the dominant plant species present at this wetland. The wetland also supports chiming bells, bishop's cap, Coulter fleabane, Wolf's trisetum, and beautiful sedge.

Soils. No soils were officially described for this wetland, however the soils were examined and are hydric. No histosols or soils with histic epipedons are present.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

#### 5.3.15 Isolated Wetland 15

Location/Landform. Isolated Wetland 15 is located near the western project boundary downslope of Alberta Park Road. The wetland occurs on an east-facing slope about 300 feet south of Isolated Wetland 14.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, forested wetland class, needle-leaf evergreen subclass, with a saturated water regime.

Hydrology. A seasonal seep provides water for this wetland. No saturation was observed at the time of assessment in late August 2005.

Vegetation. An overstory of Engelmann spruce and subalpine fir and an understory of arrowleaf groundsel characterize this wetland. Other herbaceous wetland plants present include bluejoint reedgrass, bishop's cap, brook saxifrage, Fendler cowbane, marsh marigold, and heartleaf bittercress.

Soils. No soils were officially described for this site, however the soils were examined and are hydric. No histosols or soils with histic epipedons are present.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

#### 5.3.16 Isolated Wetland 16

Location/Landform. Isolated Wetland 16 is located on an east-facing slope near the western project boundary, downslope of Alberta Park Road and 170 feet east of Isolated Wetland 15.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine System, emergent wetland class, with a saturated water regime.

Hydrology. Water for this wetland is provided by a perennial seep. At the time of assessment in late August 2005, approximately one-third of this wetland had soils that were saturated to the surface. Water from this wetland also appears to flow under the new skiway, saturating the portion of the wetland on the other side. However, no water appears to flow to the Central Alberta Park Wetlands.

Vegetation. The upper western end of Isolated Wetland 16 supports stands of bluejoint reedgrass with arrowleaf groundsel, hairy arnica, Coulter fleabane, smallwing sedge, northern willowherb, and marsh marigold. The lower portion of this wetland has been recently graded by Wolf Creek Ski Area for the new ski-way, and numerous wetland and upland graminoids are germinating from the seed mix. Those areas with saturated soils were included within the wetland boundary, however the final composition of the vegetation in this area is unknown. A small stand of Canada thistle (*Cirsium arvense*), a Colorado State Noxious Weed, is present in this wetland as well.

Finally, that portion of the wetland east and below the ski-way supports a dense stand of arrowleaf groundsel with willowherb, marsh yellow cress, common monkeyflower, bishop's cap, Coulter fleabane, bog bluegrass, and Richardson's geranium.

Soils. One soil has been described from this wetland. Soil Pit 73 is a Typic Cryaquoll with common distinct mottles in the upper 13 inches of soil. The soil is disturbed and it appears the upper 6 to 12 inches was removed, however this soil is hydric. A small area of organic soils was also mapped in the upper western end of this wetland.

Jurisdictional Status. Although water appears to be seeping under the skiway, there is no apparent surface water connection to other waters of the U.S. from the lower eastern part of this wetland to the Central Alberta Park Wetlands. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

#### 5.3.17 Isolated Wetland 17

Location/Landform. Isolated Wetland 17 is located about 50 feet southwest of Isolated Wetland 16 in the western portion of the project site. The wetland occurs on an east-facing slope.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine System, emergent wetland class, with a saturated water regime.

Hydrology. Water for this wetland is provided by a small perennial seep. Portions of the wetland were saturated at or near the surface at the end of August 2005.

Vegetation. This wetland is characterized by arrowleaf groundsel and bluejoint reedgrass. Also present are Fendler cowbane, willowherb, Coulter fleabane, smallwing sedge, Wolf's trisetum, hairy arnica, monkshood, globeflower, chiming bells, and millet woodrush.

Soils. No soils have been officially described from this wetland, however the soils were examined and are hydric. Furthermore, a small area of organic soils (histosols and/or histic epipedons) was found in the upper western end of this wetland.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

#### 5.3.18 Isolated Wetland 18

Location/Landform. Wetland 18 is located near the western project boundary downslope of Alberta Park Road. The wetland occurs on an east-facing slope. Photo 27 depicts this wetland.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, forested wetland class, needle-leaf evergreen subclass, with a saturated water regime.

Hydrology. Water for this wetland is provided by a small perennial seep. Portions of the wetland were saturated at or near the surface at the end of August 2005.

Vegetation. Isolated Wetland 18 is characterized by an overstory of Engelmann spruce and subalpine fir, with an understory of arrowleaf groundsel, marsh marigold, and bluejoint reedgrass. Other common wetland plants include Fendler cowbane, heartleaf bittercress, willowherb, hairy arnica, small-headed sedge, Coulter fleabane, smallwing sedge, and false hellebore.

Soils. One soil was described from this wetland. Soil Pit 72 is a Typic Cryaquept with a 5-inch thick organic layer and an A horizon, from 5 to 12 inches, with a few distinct mottles and oxidized root channels. One area of organic soils (histosols and/or histic epipedons) was found in the center of this wetland.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

#### 5.3.19 Isolated Wetland 19

Location/Landform. This wetland is located just south of Tributary Wetland B along the west property line.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with a saturated water regime.

Hydrology. Water for this wetland is provided by a seasonal seep. The soils were wet, but not saturated at the surface at the time of assessment in early August 2005.

Vegetation. Isolated Wetland 19 occurs in an opening of an Engelmann spruce-subalpine fir forest. The wetland is dominated by the native wetland forbs arrowleaf groundsel and chiming bells. Common associates include bishop's cap, waterplantain buttercup, millet woodrush, Fendler cowbane, Barbey larkspur, globeflower, and American alpine speedwell. On the edges of the wetland are lovage, heartleaf arnica (*Arnica cordifolia*), gooseberry currant, fringed brome, and strawberry.

Soils. Although no soils have been officially described from this wetland, the soils are hydric. No histosols or soils with histic epipedons were found here.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

#### 5.3.20 Isolated Wetland 20

Location/Landform. This wetland is located under the Alberta Chairlift on a gentle northeast-facing slope.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with a saturated water regime.



Hydrology. This wetland appears to have a high groundwater table in early spring or summer, although no saturation was observed at the time of assessment in late August 2005.

Vegetation. The vegetation of Isolated Wetland 20 consists of herbaceous wetland communities under the chairlift, and forested wetland communities along the edge of the chairlift corridor. The herbaceous wetland communities are dominated by wetland graminoids such as smallwing sedge, tufted hairgrass, bluejoint reedgrass, bog bluegrass, Drummond's rush, and millet woodrush. Wetland forbs are also present, including arrowleaf groundsel, Coulter fleabane, and hairy arnica. Upland plants occasionally present include ebony sedge, beautiful sedge, creeping sibbaldia, and strawberry. Portions of the herbaceous wetland were likely disturbed when the chairlift towers were installed.

The forested communities have an Engelmann spruce and subalpine fir overstory and an understory of Coulter fleabane, bishop's cap, Fendler cowbane, and bog bluegrass, as well as scattered creeping sibbaldia and bluntseed sweet cicely, which are not wetland plants.

Soils. Five soils were described from within or near this wetland. Soil Pits 61 and 63 are wetland soils and are classified as Typic Cryaquolls. Both soils are hydric and had a few distinct mottles and oxidized root channels. Soil Pit 59 and 62 are a Typic Haplocryolls, non-hydric soils, with no redoxomorphic features, and Soil Pit 60 is an Oxyaquic Haplocryoll, another non-hydric soil.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

#### 5.3.21 Isolated Wetland 21

Location/Landform. Isolated Wetland 21 is located southwest of Isolated Wetland 20 near the chairlift corridor. The wetland occurs in a small swale on a gentle northeast-facing slope.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with a saturated water regime.

Hydrology. This wetland is likely supported by a seasonal seep in the early spring. No saturation was observed at the time of assessment in late August 2005.

Vegetation. Isolated Wetland 21 occurs in a small opening of the Engelmann spruce-subalpine fir forest. The understory is comprised of both wetland and upland herbaceous plant species. The most common plants are arrowleaf groundsel, Coulter fleabane, and blue wildrye, an upland species. Other associates include millet woodrush, American alpine speedwell, globeflower, chiming bells, willowherb, Richardson's geranium, nodding ragwort, slender hawkweed (*Chlorocrepis tristis* ssp. *gracilis*), fringed brome, strawberry, lovage, and beautiful cinquefoil. Overall, the wetland plants are prevalent.

Soils. One hydric soil was described from this wetland. Soil Pit 57 is a Typic Cryaquoll with a few distinct mottles in the Bw horizon from 3 to 14 inches below the soil surface. Oxidized root channels were also found.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

#### 5.3.22 Isolated Wetland 22

Location/Landform. Isolated Wetland 22 is located about 140 feet east of Isolated Wetland 20 along the northwest portion of the South Alberta Park Wetlands. This wetland occurs on a gentle northeast-facing slope.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, forested wetland class, needle-leaf evergreen subclass, with a saturated water regime.

Hydrology. This wetland is likely supported by a seasonal seep in the early spring. No saturation was observed at the time of assessment in late August 2005.

Vegetation. This wetland is characterized by an overstory of Engelmann spruce and an understory of arrowleaf groundsel. Other wetland plant species present include chiming bells, bog bluegrass, millet woodrush, Fendler cowbane, waterplantain buttercup, Coulter fleabane, and marsh marigold. There are also a few upland plants including Richardson's geranium, bluntseed sweet cicely, gooseberry currant, nodding ragwort, yarrow, and fringed brome.

Soils. One soil was described from this wetland. Soil Pit 74 is a Typic Cryaquoll with a few distinct mottles in the A/Bw horizon from 4 to 14 inches below the soil surface. A few oxidized root channels are also present. This soil is hydric.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

#### 5.3.23 Isolated Wetland 23

Location/Landform. This wetland is located west of Tributary Wetland E in a small drainage swale.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with a seasonally flooded water regime.

Hydrology. This wetland appears to collect snowmelt runoff, although a seasonal seep may also be present. There was no saturation at the time of assessment in late August 2005. Please note, the drainage swale does not extend downslope to the road.

Vegetation. Isolated Wetland 23 is characterized by a dense stand of arrowleaf groundsel with bluejoint reedgrass, monkshood, Coulter fleabane, brook saxifrage, Fendler cowbane, chiming bells, willowherb, and Brandegees fumewort. The wetland is surrounded by a dense stand of blue wildrye, a native upland grass.

Soils. No soils have been officially described from this wetland, however the soils were examined and are hydric. No histosols or soils with histic epipedons were found in this wetland.

Jurisdictional Status. Isolated Wetland 23 was visited by Ms. Anita Culp of the Corps on September 19, 2005, who verified that this wetland is isolated and hence non-jurisdictional.

#### 5.3.24 Isolated Wetland 24

Location/Landform. Isolated Wetland 24 is located northwest of Tributary Wetland E in a small drainage swale on a northeast-facing slope about 220 feet southeast of Isolated Wetland 23.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with seasonally flooded and saturated water regimes.

Hydrology. This wetland appears to collect snowmelt runoff, although a seasonal seep may also be present. Although there was no saturation at the time of assessment in late August 2005, the soils were wet.

Vegetation. Isolated Wetland 24 is characterized by a dense stand of arrowleaf groundsel with bluejoint reedgrass, monkshood, Coulter fleabane, brook saxifrage, Fendler cowbane, chiming

bells, willowherb, and Brandeggee fumewort. The wetland is surrounded by a dense stand of blue wildrye, a native upland grass.

Soils. No soils have been officially described from this wetland, however the soils were examined and are hydric. No histosols or soils with histic epipedons were found in this wetland.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

#### 5.3.25 Isolated Wetland 25

Location/Landform. Isolated Wetland 25 is located in the southwestern corner of the project site, west of Tributary Wetland F. The wetland occurs in a small swale on a north-east-facing slope.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with a saturated water regime.

Hydrology. The hydrology for this wetland is provided by a perennial seep. Soils were saturated to the surface at the time of assessment in late August 2005.

Vegetation. Isolated Wetland 25 is characterized by arrowleaf groundsel and smallwing sedge. Other common wetland associates include graminoids such as tufted hairgrass, Wolf's trisetum, and Drummond's rush, and forbs including bishop's cap, common monkeyflower, cow parsnip, brook saxifrage, marsh marigold, Coulter fleabane, giant red Indian paintbrush, false hellebore, chiming bells, Fendler cowbane, Brandeggee fumewort, and willowherb.

Soils. No soils have been officially described from this wetland, however the soils were examined and are hydric. No histosols or soils with histic epipedons were found in this wetland.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S., hence this wetland would likely be considered non-jurisdictional by the Corps.

#### 5.3.26 Isolated Wetland 26

Location/Landform. Isolated Wetland 26 is located about 80 feet southeast of Isolated Wetland 25, near the southwest corner of the project site under the Alberta Chairlift. The wetland occurs in a small depression on a northeast-facing slope.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with a saturated water regime.

Hydrology. The hydrology for this wetland is provided by a perennial seep. Soils were saturated to the surface at the time of assessment in late August 2005.

Vegetation. Isolated Wetland 26 is characterized by arrowleaf groundsel and smallwing sedge. Other common wetland associates include graminoids such as tufted hairgrass, Wolf's trisetum, and Drummond's rush, and forbs including bishop's cap, common monkeyflower, cow parsnip, brook saxifrage, marsh marigold, Coulter fleabane, giant red Indian paintbrush, false hellebore, chiming bells, Fendler cowbane, Brandeggee fumewort, and willowherb.

Soils. No soils have been officially described from this wetland, however the soils were examined and are hydric. A majority of this wetland has organic soils as evidenced by the presence of histosols and/or soils with histic epipedons.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

#### 5.3.27 Isolated Wetland 27

Location/Landform. Isolated Wetland 27 is located along the southern property line and about 20 feet southeast of Isolated Wetland 26. The wetland occurs on a northeast-facing slope.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with a saturated water regime.

Hydrology. The hydrology for this wetland is provided by a perennial seep. Soils were saturated to the surface at the time of assessment in late August 2005.

Vegetation. Isolated Wetland 27 is characterized by a dense stand of bluejoint reedgrass with Coulter fleabane, arrowleaf groundsel, and smallwing sedge.

Soils. No soils have been officially described from this wetland, however the soils were examined and are hydric. No histosols or soils with histic epipedons were found in this wetland.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

#### 5.3.28 Isolated Wetland 28

Location/Landform. Isolated Wetland 28 is located on a steep south-facing slope between the South Tributary to Pass Creek and Alberta Park Road.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, forested wetland class, needle-leaf evergreen subclass, with a saturated water regime.

Hydrology. The hydrology for this wetland appears to be controlled by a seasonal seep. There was no saturation at the time of assessment in early August 2005.

Vegetation. This wetland occurs in a small opening of an Engelmann spruce-subalpine fir forest, and is characterized by Fendler cowbane, bishop's cap, bluejoint reedgrass, and marsh marigold. Also present are millet woodrush, monkshood, and false hellebore.

Soils. No soils have been officially described from this wetland, however the soils were examined and are hydric. No histosols or soils with histic epipedons are present.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

#### 5.3.29 Isolated Wetland 29

Location/Landform. Isolated Wetland 29 is located on a moderate south-facing slope about 100 feet southeast of Isolated Wetland 28, and between the South Tributary to Pass Creek and Alberta Park Road.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with a saturated water regime.

Hydrology. Water for this wetland is provided by a perennial seep. Soils were saturated to the surface at the time of assessment in early August 2005.

Vegetation. This wetland is dominated by bluejoint reedgrass with beaked sedge, false hellebore, Fendler cowbane, marsh marigold, and millet woodrush.

Soils. No soils have been officially described from this wetland, however the soils were examined and are hydric. No histosols or soils with histic epipedons were found in this wetland.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

#### 5.3.29 Isolated Wetland 30

Location/Landform. Isolated Wetland 30 is located near the northwest corner of the project site on a gentle slope near the base of a hill.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, forested wetland class, needle-leaf evergreen subclass, with a saturated water regime.

Hydrology. Water for this wetland appears to be provided by a seasonal seep. There was no saturation in this wetland at the time of assessment in early August 2005.

Vegetation. This wetland occurs in an opening of an Engelmann spruce–subalpine fir forest, and numerous downed logs cross this wetland. The wetland vegetation is characterized by arrowleaf groundsel, chiming bells, bluejoint reedgrass, bishop's cap, bog bluegrass, and willowherb. Gooseberry currant and Richardson's geranium are also present.

Soils. One hydric soil was described from this wetland. Soil Pit 44 is a Typic Cryaquoll with a few prominent mottles in the Ab horizon from 5 to 7 inches below the soil surface, and a few to common distinct mottles 7 to 12 inches down. Oxidized root channels were also found. No histosols or soils with histic epipedons were found.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

#### 5.3.29 Isolated Wetland 31

Location/Landform. Isolated Wetland 31 is located in the eastern portion of the project site, south of Alberta Lake Road and north of the South Tributary to Pass Creek. The wetland occurs on a gentle south-facing slope.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with a saturated water regime.

Hydrology. Water for this wetland appears to be provided by a seasonal seep. There was no saturation in this wetland at the time of assessment in early August 2005.

Vegetation. This wetland occurs in an opening of an Engelmann spruce–subalpine fir forest. The wetland vegetation is characterized by arrowleaf groundsel, bluejoint reedgrass, Coulter's fleabane, and false hellebore.

Soils No soils have been officially described from this wetland, however the soils were examined and are hydric. No histosols or soils with histic epipedons were found in this wetland.

Jurisdictional Status. There is no apparent surface water connection to other waters of the U.S. This wetland does not meet the Corps' (Albuquerque District) criteria for jurisdiction and is hence considered isolated.

## 5.4 Ditch Wetlands

Wetlands in ditches along roads are referred to as Ditch Wetlands. The four Ditch Wetlands have a total area of 0.23 acres and comprise approximately 8% of all the non-jurisdictional wetlands present on the project site.

### 5.4.1 Ditch Wetland A

Location/Landform. Ditch Wetland A is located along an unnamed dirt road which extends northeast from Alberta Park Road.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with saturated and seasonally flooded water regimes.

Hydrology. Water for this wetland is mainly provided by a perennial seep in the Central Alberta Wetlands located directly to the north. Water from the seep runs south and is intercepted by the roadside ditch. Water then runs west-southwest along the ditch. Eventually water runs along the dirt road for approximately 55 feet where it appears to flow into Wetland I. Soils were saturated to the surface at the time of assessment in early August 2005 in these wetlands, but water was not running along the entire length of the road.

Vegetation. The vegetation in this road side ditch is characterized by wetland species such as Rocky Mountain rush, small-headed sedge, elephant's head, alpine timothy, wolf's trisetum, meadow foxtail (*Alopecurus pratensis*), Fendler cowbane, marsh marigold, and American alpine speedwell, and upland plants such as ebony sedge, beautiful cinquefoil, strawberry, yarrow, and nodding ragwort.

Soils. Two soils were described from within or near this wetland. Soil Pit 13 is an Aquic Eutricrypt, a hydric soil, with common distinct mottles in the 13 inch deep soil profile. Soil Pit 14, a non-hydric soil, is an Oxyaquic Haplocryoll with common distinct mottles and a light matrix color.

Jurisdictional Status. Ditch Wetland A was visited by Ms. Anita Culp of the Corps on September 19, 2005, who stated that wetlands that are created in upland ditches are not jurisdictional. However, Ms. Culp stated that the portions of this ditch wetland that appear to have been created in wetlands would remain jurisdictional.

### 5.4.2 Ditch Wetland B

Location/Landform. Ditch Wetland B is located in a ditch along the north side of Alberta Lake Road in the eastern portion of the project site. Photo 28 depicts this wetland.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with saturated and seasonally flooded water regimes.

Hydrology. Water for this wetland is provided mainly by water draining from Wetland I. Although most of the water from Wetland I is drained by a culvert to Wetland J, some water appears to be diverted into Ditch Wetland B. At the time of assessment in early August 2005, the soils in this ditch wetland were not saturated, although some were wet.

Vegetation. The vegetation in this road side ditch is characterized by wetland species such as Rocky Mountain rush, Drummond's rush, common monkeyflower, small-headed sedge, tufted hairgrass, elephant's head, alpine timothy, wolf's trisetum, willowherb, waterplantain buttercup, Fendler cowbane, marsh marigold, white bog orchid (*Limnorchis dilatata*), and American alpine

speedwell, and upland plants such as ebony sedge, beautiful cinquefoil, strawberry, yarrow, nodding ragwort, and white Dutch clover (*Trifolium repens*).

Soils. One soil was described from this wetland. Soil Pit 50 is a Typic Cryaquoll with an 8 inch A horizon, and common distinct mottles and oxidized root channels. The soil is hydric, but disturbed.

Jurisdictional Status. Ditch Wetland B was visited by Ms. Anita Culp of the Corps on September 19, 2005, who stated that this area represents a ditch constructed in uplands and hence would not be jurisdictional.

#### 5.4.2 Ditch Wetland C

Location/Landform. Ditch Wetland C is located along an unnamed dirt road adjacent to Tributary Wetland E in the south-central portion of the project site.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with saturated and seasonally flooded water regimes.

Hydrology. Water for this wetland is provided by a seep located on the road cut. This wetland was saturated at the time of assessment in late August of 2005. Water from this wetland flows into Tributary Wetland E.

Vegetation. This wetland is characterized by Rocky Mountain rush, tufted hairgrass, small-headed sedge, marsh marigold, and elephant's head. A few planeleaf willows also occur.

Soils. No soils have been officially described from this wetland, however the soils were examined and are hydric. No histosols or soils with histic epipedons were found in this wetland.

Jurisdictional Status. Ditch Wetland C was visited by Ms. Anita Culp of the Corps on September 19, 2005, who stated that this area represents a ditch constructed in uplands and hence would not be jurisdictional.

#### 5.4.2 Ditch Wetland D

Location/Landform. Ditch Wetland D is located along an unnamed dirt road just northwest of Tributary Wetland G in the south-central portion of the project site.

Classification. According to Cowardin et al. (1979), this wetland is classified as a Palustrine system, emergent wetland class, with saturated and seasonally flooded water regimes.

Hydrology. The hydrology for this wetland is likely derived from snow melt waters which pond in this wetland.

Vegetation. This wetland is characterized by a dense stand of beaked sedge and water sedge. Also present are tufted hairgrass, smallwing sedge, false hellebore, and bluejoint reedgrass.

Soils. No soils have been officially described from this wetland, however the soils were examined and are hydric. No histosols or soils with histic epipedons were found in this wetland.

Jurisdictional Status. Ditch Wetland D was visited by Ms. Anita Culp of the Corps on September 19, 2005, who stated that this area represents a ditch constructed in uplands and hence would not be jurisdictional.

## 6.0 Non-Wetland Habitats

The non-wetland habitats on the project site include Engelmann spruce–subalpine fir forests and meadows. The forest community supports a variable understory depending on degree of shading. Where the forests are relatively dense and unaltered by thinning, the understory is comprised of scattered plants of whortleberry, gooseberry currant, red elderberry (*Sambucus microbotrys*), skunkleaf polemonium, heartleaf arnica, sickletop lousewort (*Pedicularis racemosa ssp. alba*), elk sedge (*Carex geyeri*), bluntseed sweet cicely, strawberry, and mountain parsley (*Pseudocymopterus montanus*).

However, where the forests have been thinned for ski-runs, such as in the southern portion of the project site, the understory is comprised of a thick cover of native upland graminoids and forbs. The most common plants include lovage, blue wildrye, slender wheatgrass, fringed brome, ebony sedge, and pearly everlasting (*Anaphalis margaritacea*). Also present is bluejoint reedgrass, a wetland plant, however it is not prevalent.

Finally, upland meadows support perennial graminoid species such as Thurber fescue (*Festuca thurberi*), slender wheatgrass, vasey oatgrass, and alpine timothy, as well as perennial forbs including yarrow, nodding ragwort, harebell (*Campanula rotundifolia*), strawberry, yarrow, small leaf pussytoes (*Antennaria parvifolia*), dandelion, manyray goldenrod, beautiful cinquefoil, sulphur Indian paintbrush, creeping sibbaldia, and pale and orange agoseris (*Agoseris glauca*, *A. aurantiaca*). These areas generally occur as small upland "islands" within the Alberta Park Wetland Complex.

## 7.0 Summary

The 287.5 acre Village at Wolf Creek project site is characterized by 61.91 acres of jurisdictional wetlands and 2.71 acres of non-jurisdictional wetlands. These wetlands are mainly located in or adjacent to Alberta Park, however, wetlands also occur along the various drainages on the project site, and at scattered seeps and in a few roadside ditches. In general, the wetlands appear to be of high quality and are comprised of plant species common to subalpine wetlands of San Juan mountain region. A total of 132 species of vascular plants were found within or adjacent to wetlands. The wetland flora includes four trees, seven shrubs/subshrubs, 40 perennial graminoids, 77 perennial forbs, and four annual/biennial forbs. Six species, or approximately 5% are non-native, including three Colorado State noxious weeds: Canada thistle, toadflax (*Linaria vulgaris*), and ox-eye daisy (*Leucanthemum vulgare*). In addition, four species of mosses were found, all of which are common in subalpine wetlands. None of the wetland plants are federally threatened, endangered, or candidates for listing. Furthermore, none of the wetland plants are actively tracked by the Colorado Natural Heritage Program, the state repository for rare plant information.



## 8.0 References

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## 9.0 Tables

TABLE 1  
Wetland Areas  
Village at Wolf Creek  
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<u>Wetland Name</u>	<u>Jurisdictional</u>			<u>Non-Jurisdictional</u>		
	<u>Size</u> <u>Sq. ft.</u>	<u>Size</u> <u>Acres</u>	<u>Percent</u> <u>of Total</u>	<u>Size</u> <u>Sq. ft.</u>	<u>Size</u> <u>Acres</u>	<u>Percent</u> <u>of Total</u>
Alberta Park Wetlands						
North Alberta Park Wetlands	500,597	11.49	18.56%			
Central Alberta Park Wetlands	1,217,692	27.95	45.15%			
South Alberta Park Wetlands	422,632	9.70	15.67%			
Alberta Park Wetlands Subtotal	2,140,920	49.15	79.39%			
Associated Wetlands						
Wetland A	15,836	0.36	0.59%			
Wetland B	37,409	0.86	1.39%			
Wetland C	52,853	1.21	1.96%			
Wetland D	104	0.00	0.00%			
Wetland E-1	1,219	0.03	0.05%			
Wetland E-2	509	0.01	0.02%			
Wetland F	15,707	0.36	0.58%			
Wetland G-1	1,095	0.03	0.04%			
Wetland G-2	1,434	0.03	0.05%			
Wetland H-lower, west	16,040	0.37	0.59%			
Wetland H -upper, east	8,856	0.20	0.33%			
Wetland I	14,765	0.34	0.55%			
Wetland J	28,014	0.64	1.04%			
Wetland K-1	571	0.01	0.02%			
Wetland K-2	230	0.01	0.01%			
Wetland K-3	367	0.01	0.01%			
Wetland K-4	342	0.01	0.01%			
Wetland L	13,171	0.30	0.49%			
Wetland M	19,197	0.44	0.71%			
Wetland N	551	0.01	0.02%			
Wetland O	1,165	0.03	0.04%			
Wetland P	924	0.02	0.03%			
Wetland Q	598	0.01	0.02%			
Associated Wetlands Subtotal	230,958	5.30	8.56%			
Tributary Wetlands						
North Tributary to Pass Creek	25,940	0.60	0.96%			
South Tributary to Pass Creek	99,732	2.29	3.70%			
Tributary Wetland A	10,234	0.23	0.38%			
Tributary Wetland B	12,420	0.29	0.46%			
Tributary Wetland C	18,425	0.42	0.68%			
Tributary Wetland D	31,413	0.72	1.16%			
Tributary Wetland E	27,195	0.62	1.01%			

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<u>Wetland Name</u>	<u>Jurisdictional</u>			<u>Non-Jurisdictional</u>		
	<u>Size Sq. ft.</u>	<u>Size Acres</u>	<u>Percent of Total</u>	<u>Size Sq. ft.</u>	<u>Size Acres</u>	<u>Percent of Total</u>
Tributary Wetland F	57,570	1.32	2.13%			
Tributary Wetland G	34,668	0.80	1.29%			
Tributary Wetland H	7,357	0.17	0.27%			
Tributary Wetlands Subtotal	324,953	7.46	12.05%			
Isolated Wetlands						
Isolated Wetland 1				457	0.01	0.39%
Isolated Wetland 2				4,886	0.11	4.13%
Isolated Wetland 3				2,907	0.07	2.46%
Isolated Wetland 4				530	0.01	0.45%
Isolated Wetland 5				1,173	0.03	0.99%
Isolated Wetland 6				3,457	0.08	2.92%
Isolated Wetland 7				582	0.01	0.49%
Isolated Wetland 8				24,882	0.57	21.05%
Isolated Wetland 9				6,838	0.16	5.78%
Isolated Wetland 10				954	0.02	0.81%
Isolated Wetland 11				2,584	0.06	2.19%
Isolated Wetland 12				3,895	0.09	3.29%
Isolated Wetland 13				1,606	0.04	1.36%
Isolated Wetland 14				194	0.00	0.16%
Isolated Wetland 15				604	0.01	0.51%
Isolated Wetland 16				5,634	0.13	4.77%
Isolated Wetland 17				1,602	0.04	1.36%
Isolated Wetland 18				947	0.02	0.80%
Isolated Wetland 19				1,876	0.04	1.59%
Isolated Wetland 20				27,860	0.64	23.57%
Isolated Wetland 21				864	0.02	0.73%
Isolated Wetland 22				936	0.02	0.79%
Isolated Wetland 23				880	0.02	0.74%
Isolated Wetland 24				1,815	0.04	1.53%
Isolated Wetland 25				5,652	0.13	4.78%
Isolated Wetland 26				1,906	0.04	1.61%
Isolated Wetland 27				704	0.02	0.60%
Isolated Wetland 28				182	0.00	0.15%
Isolated Wetland 29				405	0.01	0.34%
Isolated Wetland 30				1,016	0.02	0.86%
Isolated Wetland 31				572	0.01	0.48%
Isolated Wetlands Total				108,401	2.49	91.69%

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<u>Wetland Name</u>	<u>Jurisdictional</u>			<u>Non-Jurisdictional</u>		
	<u>Size</u> <u>Sq. ft.</u>	<u>Size</u> <u>Acres</u>	<u>Percent</u> <u>of Total</u>	<u>Size</u> <u>Sq. ft.</u>	<u>Size</u> <u>Acres</u>	<u>Percent</u> <u>of Total</u>
Ditch Wetlands						
Ditch Wetland A				1,358	0.03	1.15%
Ditch Wetland B				7,311	0.17	6.18%
Ditch Wetland C				620	0.01	0.52%
Ditch Wetland D				531	0.01	0.45%
Ditch Wetlands Total				9,820	0.23	8.31%
GRAND TOTAL	2,696,832	61.91	100.00%	118,221	2.71	100.00%

Note: Semi-permanent aquatic habitats are included in wetland area calculations. Totals and subtotals are based on actual square footage, not rounded numbers.

TABLE 2  
Plant Species List  
Village at Wolf Creek  
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<u>Scientific Name</u>	<u>Common Name</u>	<u>Family</u>	<u>Origin +</u>	<u>Wetland Status + +</u>
<b>Trees</b>				
<i>Abies bifolia</i> (= <i>A. lasiocarpa</i> of Colo lit)	Subalpine fir	Pinaceae	N	FACU
<i>Picea engelmannii</i>	Engelmann spruce	Pinaceae	N	FACU-*
<i>Pinus contorta</i> var. <i>latifolia</i>	Lodgepole pine	Pinaceae	N	FACU-*
<i>Populus tremuloides</i>	Aspen	Salicaceae	N	FAC
<b>Shrubs/Subshrubs</b>				
<i>Distegia involucrata</i>	Bush honeysuckle	Caprifoliaceae	N	FAC
<i>Ribes montigenum</i>	Gooseberry currant	Grossulariaceae	N	NL
<i>Salix brachycarpa</i>	Barrenground willow	Salicaceae	N	FACW
<i>Salix planifolia</i>	Planeleaf willow	Salicaceae	N	OBL
<i>Salix wolfii</i> var. <i>wolfii</i>	Wolf willow	Salicaceae	N	OBL
<i>Sambucus microbotrys</i>	Red elderberry	Caprifoliaceae	N	FACU
<i>Vaccinium myrtillus</i> subsp. <i>oreophilum</i>	Whortleberry	Ericaceae	N	NI [UPL]
<b>Perennial Graminoids</b>				
<i>Agrostis exarata</i>	Spike bentgrass	Poaceae	N	FACW
<i>Agrostis idahoensis</i>	Idaho bentgrass	Poaceae	N	FAC
<i>Agrostis scabra</i>	Ticklegrass, Rough bentgrass	Poaceae	N	FAC
<i>Alopecurus pratensis</i>	Meadow foxtail	Poaceae	I	NI
<i>Bromopsis canadensis</i>	Fringed brome	Poaceae	N	FACU
<i>Calamagrostis canadensis</i>	Bluejoint reedgrass	Poaceae	N	OBL
<i>Carex angustior</i>	Prickley sedge	Cyperaceae	N	OBL
<i>Carex aquatilis</i>	Water sedge	Cyperaceae	N	OBL
<i>Carex bella</i>	Beautiful sedge	Cyperaceae	N	FACU
<i>Carex canescens</i>	Pale sedge	Cyperaceae	N	OBL
<i>Carex disperma</i>	Softleaf sedge	Cyperaceae	N	FACW
<i>Carex ebenea</i>	Ebony sedge	Cyperaceae	N	NL
<i>Carex foenea</i>	Dryspike sedge	Cyperaceae	N	NI [FACU]
<i>Carex geyeri</i>	Elk sedge	Cyperaceae	N	NL
<i>Carex illota</i>	Small-headed sedge	Cyperaceae	N	OBL
<i>Carex jonesii</i>	Jones' sedge	Cyperaceae	N	FACW
<i>Carex microptera</i>	Smallwing sedge	Cyperaceae	N	FAC
<i>Carex nova</i>	New sedge	Cyperaceae	N	FAC
<i>Carex pachystachya</i>	Chamisso sedge	Cyperaceae	N	FACU
<i>Carex rossii</i>	Ross' sedge	Cyperaceae	N	NL
<i>Carex utriculata</i>	Beaked sedge	Cyperaceae	N	OBL

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<u>Scientific Name</u>	<u>Common Name</u>	<u>Family</u>	<u>Origin +</u>	<u>Wetland Status + +</u>
<i>Danthonia intermedia</i>	Vasey oatgrass	Poaceae	N	FACU
<i>Deschampsia caespitosa</i>	Tufted hairgrass	Poaceae	N	FACW
<i>Eleocharis macrostachya</i> (= <i>E. palustris</i> )	Creeping spikerush	Cyperaceae	N	OBL
<i>Eleocharis quinqueflora</i>	Fewflower spikerush	Cyperaceae	N	OBL
<i>Elymus glaucus</i>	Blue wildrye	Poaceae	N	FACU
<i>Elymus trachycaulus</i>	Slender wheatgrass	Poaceae	N	FACU
<i>Eriophorum angustifolium</i>	Narrowleaf cottonsedg	Cyperaceae	N	OBL
<i>Festuca thurberi</i>	Thurber fescue	Poaceae	N	NL
<i>Hierochloa hirta</i> (subsp. <i>arctica</i> )	Sweet grass	Poaceae	N	FACW
<i>Juncus arcticus</i> subsp. <i>ater</i> (= <i>J. balticus</i> )	Baltic rush	Juncaceae	N	FACW
<i>Juncus drummondii</i>	Drummond rush	Juncaceae	N	FACW* [FAC]
<i>Juncus saximontanus</i>	Rocky Mountain rush	Juncaceae	N	FACW+
<i>Luzula parviflora</i>	Millet woodrush	Juncaceae	N	FAC
<i>Phleum commutatum</i>	Alpine timothy	Poaceae	N	FAC
<i>Poa alpina</i>	Alpine bluegrass	Poaceae	N	FACU*
<i>Poa arctica</i>	Arctic bluegrass	Poaceae	N	FACU
<i>Poa leptocoma</i>	Bog bluegrass	Poaceae	N	FACW
<i>Trisetum spicatum</i> (subsp. <i>alaskanum</i> )	Spiked false oat	Poaceae	N	FACU-
<i>Trisetum wolfii</i>	Wolf's trisetum	Poaceae	N	FACW-
<b>Perennial Forbs</b>				
<i>Achillea lanulosa</i>	Yarrow	Asteraceae	N	FACU
<i>Aconitum columbianum</i>	Monkshood	Helleboraceae	N	FACW
<i>Agoseris aurantiaca</i>	Orange agoseris	Asteraceae	N	FACU
<i>Agoseris glauca</i> var. <i>dasycephala</i>	Pale agoseris	Asteraceae	N	FACU
<i>Anaphalis margaritacea</i>	Pearly everlasting	Asteraceae	N	NL
<i>Antennaria corymbosa</i>	Flattop pussytoes	Asteraceae	N	FACW
<i>Antennaria parvifolia</i>	Small leaf pussytoes	Asteraceae	N	NL
<i>Anticlea elegans</i>	Death camas	Melanthiaceae	N	FACU
<i>Arnica cordifolia</i>	Heartleaf arnica	Asteraceae	N	NL
<i>Arnica mollis</i>	Hairy arnica	Asteraceae	N	FAC*
<i>Bistorta bistortoides</i>	American bistort	Polygonaceae	N	FAC* [FAC*]
<i>Bistorta vivipara</i>	Alpine bistort	Polygonaceae	N	FAC+
<i>Campanula rotundifolia</i>	Harebell	Campanulaceae	N	FACU
<i>Cardamine cordifolia</i>	Heartleaf bittercress	Brassicaceae	N	FACW+

TABLE 2  
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<u>Scientific Name</u>	<u>Common Name</u>	<u>Family</u>	<u>Origin +</u>	<u>Wetland Status + +</u>
<i>Castilleja miniata</i>	Giant red Indian paintbrush	Scrophulariaceae	N	FAC
<i>Castilleja rhexifolia</i>	Splitleaf Indian paintbrush	Scrophulariaceae	N	FACU
<i>Castilleja sulphurea</i>	Sulphur Indian paintbrush	Scrophulariaceae	N	FACU
<i>Chlorocrepis tristis subsp. gracilis</i>	Slender hawkweed	Asteraceae	N	NL
<i>Cirsium arvense (Breea)</i>	Canada thistle	Asteraceae	I+	FACU
<i>Cirsium centaureae</i>	Fewleaf thistle	Asteraceae	N	NL
<i>Cirsium eatonii</i>	Eaton's thistle	Asteraceae	N	NL
<i>Clementsia rhodantha</i>	Queen's crown	Crassulaceae	N	FACW +
<i>Conioselinum scopulorum</i>	Hemlock parsley	Apiaceae	N	FACW
<i>Corydalis caseana subsp. brandegei</i>	Brandegee fumewort	Fumariaceae	N	FACW
<i>Delphinium barbeyi</i>	Barbey's larkspur	Helleboraceae	N	FAC
<i>Epilobium anagallidifolium</i>	Pimpernell willowherb	Onagraceae	N	FACW
<i>Epilobium angustifolium (Chamerion)</i>	Fireweed	Onagraceae	N	FACU
<i>Epilobium halleanum</i>	Glandular willowherb	Onagraceae	N	FAC +
<i>Epilobium hornemannii</i>	Hornemann willowherb	Onagraceae	N	FACW +
<i>Erigeron coulteri</i>	Coulter fleabane	Asteraceae	N	FACW
<i>Erigeron peregrinus subsp. callianthemus</i>	Subalpine fleabane	Asteraceae	N	FACW
<i>Fragaria virginiana subsp. glauca</i>	Mountain strawberry	Rosaceae	N	FACU
<i>Galium trifidum subsp. subbiflorum</i>	Threepetal bedstraw	Rubiaceae	N	OBL
<i>Geranium richardsonii</i>	Richardson's Geranium	Geraniaceae	N	FACU
<i>Geum macrophyllum var. perincisum</i>	Largeleaf avens	Rosaceae	N	OBL
<i>Heracleum sphondylium subsp. montanum</i>	Cow parsnip	Apiaceae	N	FAC
<i>Leucanthemum vulgare (Chrysanthemum leucanthemum)</i>	Ox-eye daisy	Asteraceae	I+	NL
<i>Ligularia amplexans</i>	Showy alpine groundsel	Asteraceae	N	FACW
<i>Ligularia bigelovii var. hallii</i>	Nodding ragwort	Asteraceae	N	NL
<i>Ligusticum porteri</i>	Lovage	Apiaceae	N	FACU-
<i>Limnorchis dilatata subsp. albiflora</i>	White bog orchid	Orchidaceae	N	FACW
<i>Limnorchis hyperborea</i>	Green bog orchid	Orchidaceae	N	FACW
<i>Limnorchis stricta</i>	Slender bog orchid	Orchidaceae	N	FACW
<i>Linaria vulgaris</i>	Yellow Toadflax	Scrophulariaceae	I+	NL
<i>Mertensia ciliata</i>	Chiming bells	Boraginaceae	N	OBL



TABLE 2  
Plant Species List  
Village at Wolf Creek  
Mineral County, Colorado  
Page 4 of 5

<u>Scientific Name</u>	<u>Common Name</u>	<u>Family</u>	<u>Origin +</u>	<u>Wetland Status + +</u>
<i>Micranthes odontoloma</i>	Brook saxifrage	Saxifragaceae	N	FACW+
<i>Mimulus guttatus</i>	Common monkeyflower	Scrophulariaceae	N	OBL
<i>Mitella pentandra</i>	Bishop's cap	Saxifragaceae	N	FACW
<i>Noccaea montana</i>	Alpine pennycress	Brassicaceae	N	NL
<i>Osmorhiza depauperata</i>	Bluntseed sweet cicely	Apiaceae	N	NL
<i>Oxypolis fendleri</i>	Fendler cowbane	Apiaceae	N	OBL
<i>Packera crocata</i>	Saffron butterweed	Asteraceae	N	FACW
<i>Pedicularis groenlandica</i>	Elephant's head	Scrophulariaceae	N	OBL
<i>Pedicularis racemosa subsp. alba</i>	Sickletop lousewort	Scrophulariaceae	N	NL
<i>Penstemon whippleanus</i>	Whipple penstemon	Scrophulariaceae	N	FACU
<i>Pneumonanthe parryi</i>	Parry's bottle gentian	Gentianaceae	N	FAC
<i>Podistera eastwoodiae</i>	Eastwoods podistera	Apiaceae	N	NL
<i>Polemonium pulcherrimum subsp. delicatum</i>	Skunkleaf polemonium	Polemoniaceae	N	NL
<i>Potentilla pulcherrima</i>	Beautiful cinquefoil	Rosaceae	N	NL
<i>Primula parryi</i>	Parry primrose	Primulaceae	N	FACW
<i>Pseudocymopterus montanus</i>	Mountain parsley	Apiaceae	N	NL
<i>Psychrophila leptosepala (= Caltha)</i>	Slender sepal marsh marigold	Helleboraceae	N	OBL
<i>Ranunculus alismifolius var. montanus</i>	Waterplantain buttercup	Ranunculaceae	N	FACW
<i>Senecio atratus</i>	Tall blacktip ragwort	Asteraceae	N	NL
<i>Senecio crassulus</i>	Thickleaf groundsel	Asteraceae	N	FAC*
<i>Senecio triangularis</i>	Arrowleaf groundsel	Asteraceae	N	OBL
<i>Sibbaldia procumbens</i>	Creeping sibbaldia	Rosaceae	N	NL
<i>Solidago multiradiata var. scopulorum</i>	Manyray goldenrod	Asteraceae	N	FACU
<i>Spiranthes romanzoffiana</i>	Hooded lady's tresses	Orchidaceae	N	FACW*
<i>Stellaria calycantha</i>	Northern stitchwort	Alsineaceae	N	FACW+ [FACW]
<i>Stellaria umbellata</i>	Umbrella starwort	Alsineaceae	N	FAC+
<i>Taraxacum officinale</i>	Dandelion	Asteraceae	I	FACU+
<i>Trifolium repens</i>	White Dutch clover	Fabaceae	I	FACU
<i>Trollius albiflorus</i>	Globeflower	Helleboraceae	N	OBL
<i>Veratrum tenuipetalum</i>	False hellebore	Melanthiaceae	N	FACW
<i>Veronica nutans</i>	American alpine speedwell	Scrophulariaceae	N	FACU [FAC+]
<i>Viola macloskeyi subsp. pallens</i>	Smooth white violet	Violaceae	N	FACW+

TABLE 2  
Plant Species List  
Village at Wolf Creek  
Mineral County, Colorado  
Page 5 of 5

<u>Scientific Name</u>	<u>Common Name</u>	<u>Family</u>	<u>Origin +</u>	<u>Wetland Status + +</u>
Annual/Biennial Forbs				
<i>Boechera drummondii</i>	Dummond's rockcress	Brassicaceae	N	FACU
<i>Gentianopsis thermalis</i>	Rocky Mountain fringed gentian	Gentianaceae	N	OBL
<i>Rorippa teres</i>	Marsh yellow cress	Brassicaceae	N	OBL
<i>Turritis glabra</i>	Tower mustard	Brassicaceae	N	NL
Cryptogams				
<i>Drepanocladus longifolius</i>	Moss	Amblystegiaceae	N	-
<i>Mnium thomsonii</i>	Moss	Mniaceae	N	-
<i>Philonotis fontana</i>	Moss	Bartramiaceae	N	-
<i>Ptychostomum pseudotriquetrum</i>	Moss	Bryaceae	N	-

\* Origin

N = Native; [N] = Naturalized, native?  
I = Introduced  
I+ = Colorado State Noxious Weed

\*\* Wetland Status

OBL = Obligate Wetland  
FACW = Facultative Wetland  
FAC = Facultative  
FACU = Facultative Upland  
UPL = Obligate Upland  
NL = Not listed on USFWS Regional Hydrophyte List NI = No Indicator (insufficient information)  
NO = Non-occurrence (species does not occur in this region)  
[XXX] = indicator status from 1996 Draft List  
\* = tentative assignment  
+ = frequency toward the higher end of the category  
- frequency toward the lower end of the category

Note, Moss species identified by Dr. William Weber, University of Colorado Boulder, on August 31, 2005.

## 10.0 Photographs



**Photo 1. Central Alberta Park Wetlands, vicinity of Pit 5 looking northwest (8/1/05).**



**Photo 2. Central Alberta Park Wetlands, old beaver pond (8/1/05).**





Photo 3. Central Alberta Park Wetlands, vicinity of Pit 7 looking east (8/1/05).



Photo 4. Central Alberta Park Wetlands, eastern part looking north (8/1/05).



**Photo 5. North Alberta Park Wetlands, vicinity of Pit 36, looking north (8/3/05).**



**Photo 6. North Alberta Park Wetlands, looking northwest from old road (8/3/05).**





**Photo 7. South Alberta Park Wetlands (background) from the southern end of Tributary Wetland D (8/29/05).**



**Photo 8. Portion of South Alberta Park Wetland under chairlift, vicinity of Pit 58, looking north (8/29/05).**





Photo 9. Wetland C, southeastern part (8/1/05).



Photo 10. View of Wetland G looking north (8/2/05).





Photo 11. View of eastern portion of Wetland H, looking west (8/2/05).



Photo 12. View of Wetland I, looking north (8/2/05)



**Photo 13. View of Wetland J, looking southeast (8/5/05).**



**Photo 14. View of Wetland L, looking east (8/5/05).**





Photo 15. View of Wetland M, looking southeast (8/29/05).



Photo 16. North Tributary to Pass Creek, eastern portion looking east (8/3/05).





**Photo 17. North Tributary to Pass Creek, western portion looking west (8/3/05).**



**Photo 18. South Tributary to Pass Creek, eastern portion looking west (8/3/05).**





Photo 19. Junction of Tributary Wetlands B & C, looking west (8/4/05).



Photo 20. Small pond in Tributary Wetland E (8/29/05).





Photo 21. Tributary Wetland F, looking north towards road (8/29/05).



Photo 22. Isolated Wetland 2, vicinity of Soil Pit 21 (8/2/05).





Photo 23. Isolated Wetland 2, northeastern portion (8/2/05).



Photo 24. Isolated Wetland 6 (8/2/05).





Photo 25. Isolated Wetland 8 (8/4/05).



Photo 26. Isolated Wetland 13, looking south (8/4/05).





**Photo 27. Isolated Wetland 18, looking south (8/4/05).**



**Photo 28. Ditch Wetland B, looking west (8/2/05).**

## Appendix A –Field Data Forms

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/1/05</u>
Applicant/Owner <u>VILLAGE AT WOLF CREEK DEVELOPMENT</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHOF / BUSCHER CORPORATION</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>1</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Community ID <u>moist meadow</u>
Is the area a potential Problem Area? (If needed, explain on reverse) <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Location ID <u>W of bottom of skirt; ALSO ARL</u>

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	Relative Cover % Understory	Indicator Status
1. <u>Deschampsia caespitosa</u>	—	45	<u>FACW</u>
2. <u>Achillea lanulosa</u>	—	10	<u>FACU</u>
3. <u>Phleum commutatum</u>	—	20	<u>FAC</u>
4. <u>Potentilla pilchermanii</u>	—	5	<u>NL</u>
5. <u>Veronica nutans</u>	—	5	<u>FACU</u>
6. <u>Ranunculus alsimilobus</u>	—	5	<u>FACW</u>
7. <u>Pseudocymopterus minimus</u>	—	5	<u>NL</u>
8. <u>Antennaria cynosuroides</u>	—	5	<u>FACU</u>
9. _____	—	—	_____
10. _____	—	—	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)		Total % Overstory _____	Total % Understory <u>75</u>
Remarks: _____			

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):  <input type="checkbox"/> Stream, Lake or Tide Gauge  <input type="checkbox"/> Aerial Photographs  <input checked="" type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:  Depth of Surface Water _____ (in.)  Depth to Free Water in Pit _____ (in.)  Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>no saturation not a wetland hydrology</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u>  <input type="checkbox"/> Inundated  <input type="checkbox"/> Saturated in Upper 12 inches  <input type="checkbox"/> Water Marks  <input type="checkbox"/> Drift Lines  <input type="checkbox"/> Sediment Deposits  <input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):  <input type="checkbox"/> Oxidized Root Channels in Upper 12 inches  <input type="checkbox"/> Water-Soaked Leaves  <input type="checkbox"/> Local Soil Survey Data  <input type="checkbox"/> FAC Neutral Test  <input type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

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Village at Wolf Cr. 8/1/05

Map Unit Name  
(Series and Phase):

Drainage Class:

Somewhat  
poorly

Field Observations

Confirm Mapped Type? Yes No

Taxonomy (Subgroup):

Oxyaquic Haplocryolls

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	A	10YR 3/2	—	—	L, 2 f gl
6-13	Bw	10YR 3/3	10YR 4/4	A, 1+2, d	L, 2 m sbk cobble

## Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors

- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Some mottles in Bw horizon, but chroma is too light,  
Also many orange sand grains from weathered cbls.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?  
Wetland Hydrology Present?  
Hydric Soils Present?

Yes No (Circle)  
Yes No  
Yes No

(Circle)

Is this Sampling Point Within a Wetland?

Yes No

Remarks:

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE C WOLF CREEK</u>	DATE <u>8/1/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINNEAPOLIS</u>
Investigator <u>ARTHUR / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>2</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID <u>Moist meadow</u>
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>NW 1/4 #2</u>
(If needed, explain on reverse)	<u>ALBERTA PARK</u>

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Deschampsia cespitosa</u>	—	50	FACW
2. <u>Calamagrostis canadensis</u>	—	30	OBL
3. <u>Bistorta bistortoides</u>	—	10	FAC+
4. <u>Ranunculus alismifolius</u>	—	10	FACW
5. _____	—	—	—
6. _____	—	—	—
7. _____	—	—	—
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory <u>—</u>	Total % Understory <u>100</u>	
Remarks: _____			

HYDROLOGY

<p>Recorded Data (Describe in Remarks):  <input type="checkbox"/> Stream, Lake or Tide Gauge  <input type="checkbox"/> Aerial Photographs  <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:          Depth of Surface Water <u>—</u> (in.)          Depth to Free Water in Pit <u>—</u> (in.)          Depth to Saturated Soil <u>—</u> (in.)</p> <p>Remarks: <u>hydrology is likely due to spring ponding and/or high groundwater</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>no saturation now</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Inundated</li> <li><input type="checkbox"/> Saturated in Upper 12 inches</li> <li><input type="checkbox"/> Water Marks</li> <li><input type="checkbox"/> Drift Lines</li> <li><input type="checkbox"/> Sediment Deposits</li> <li><input type="checkbox"/> Drainage Patterns in Wetlands</li> </ul> <p>Secondary Indicators (2 or more required):</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</li> <li><input type="checkbox"/> Water-Stained Leaves</li> <li><input type="checkbox"/> Local Soil Survey Data</li> <li><input type="checkbox"/> FAC- Neutral Test</li> <li><input checked="" type="checkbox"/> Other (Explain in Remarks)</li> </ul>
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## SOILS

pit 2 Village at Wolf Cr.

8/1/05

Map Unit Name  
(Series and Phase):

Drainage Class:

Field Observations

Confirm Mapped Type? Yes No

Taxonomy (Subgroup):

Cumulic Cryaqualls

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	A1	10YR 3/2	—	—	L, 2 f gr
4-14	A2	10YR 3/2	7.5YR 4/4	C, 1+2, d	L, 2 m. sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks: No saturation. Oxidized root channels + mottle in A2 horizon.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No (Circle)

Wetland Hydrology Present?

Yes No

Hydric Soils Present?

Yes No

(Circle)

Is this Sampling Point Within a Wetland?

Yes No

Remarks: Saturation probably in Spring / early summer. 30% obligate plants, 60% FACW plants. Hydric soil.

Approved by HQUSACE 3/92



**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/1/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>3</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Community ID <u>moist meadow</u>
Is the area a potential Problem Area? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Location ID <u>NW 12</u>
(If needed, explain on reverse)	<u>ALBERTA PARK</u>

**VEGETATION**

Dominant Plant Species	% Overstory	Relative Cover % Understory	Indicator Status
1. <u>Deschampsia caespitosa</u>	—	70	FACW
2. <u>Phleum commutatum</u>	—	5	FAC
3. <u>Antennaria corymbosa</u>	—	5	FACW
4. <u>Podistera eastwoodii</u>	—	5	NL
5. <u>Poa annua</u>	—	5	FACW
6. <u>Carex aquatilis</u>	—	10	OBL
7. _____	—	—	—
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory _____	Total % Understory <u>95</u>	
Remarks: _____			

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):  <input type="checkbox"/> Stream, Lake or Tide Gauge  <input type="checkbox"/> Aerial Photographs  <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:          Depth of Surface Water _____ (in.)          Depth to Free Water in Pit _____ (in.)          Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>Hydrology likely from spring runoff</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Inundated</li> <li><input type="checkbox"/> Saturated in Upper 12 inches</li> <li><input type="checkbox"/> Water Marks</li> <li><input type="checkbox"/> Drift Lines</li> <li><input type="checkbox"/> Sediment Deposits</li> <li><input type="checkbox"/> Drainage Patterns in Wetlands</li> </ul> <p>Secondary Indicators (2 or more required):</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</li> <li><input type="checkbox"/> Water-Stained Leaves</li> <li><input type="checkbox"/> Local Soil Survey Data</li> <li><input type="checkbox"/> FAC- Neutral Test</li> <li><input checked="" type="checkbox"/> Other (Explain in Remarks)</li> </ul>
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SOILS Pit 3 Willow Wolf CK 8/1/65

Map Unit Name  
(Series and Phase):

Drainage Class: poorly  
Field Observations  
Confirm Mapped Type? Yes No

Taxonomy (Subgroup): Cumelic Cryaquolls

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	A1	7.5YR 2.5/2	—	—	L 2 f g
6-15	A2	7.5YR 3/2	7.5YR 4/4	C, 1, d	L 2 m sbk

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chrome Colors

- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: No saturation. Mottles & oxidized root channels & iron concretions in A2 horizon. Hydrology probably from snow melt & slow runoff.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?  
Wetland Hydrology Present?  
Hydric Soils Present?

☒ Yes No (Circle)  
☒ Yes No  
☒ Yes No

(Circle)  
Is this Sampling Point Within a Wetland? ☒ Yes No

Remarks: Saturation probably in spring/early summer.  
Hydric soils. 10% obligate, 80% FACW plants.

Approved by HQUSACE 3/92



**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/1/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTMAN / BUSCH</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>4</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>N 13</u>
(If needed, explain on reverse)	<u>ALBERTA PARK</u>

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Carex Anulata</u>	—	60	OBL
2. <u>Carex aquatilis</u>	—	40	OBL
3. _____	—	—	—
4. _____	—	—	—
5. _____	—	—	—
6. _____	—	—	—
7. _____	—	—	—
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory 100

Remarks: sedges have brown leaf tips this time of year

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>No saturation now, but likely present in early spring</u>  <u>100% of veg is wet plants</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC- Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

P. + 4

Village at Wolf Cr

8/1/05

Map Unit Name  
(Series and Phase):Drainage Class: poorly  
Field Observations  
Confirm Mapped Type? Yes No

Taxonomy (Subgroup):

Histic Cryaquolls

## Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-12	De	10YR2/2			organic matter
12-16	A	10YR2/2	10YR3/3	C 1+2, f	L a m 56K

## Hydric Soil Indicators:

- ☐ Histosol  
☒ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☐ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

No saturation. Histic epipedon with mineral soil below having mottles + oxidized root channels.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)	(Circle)
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Is this Sampling Point Within a Wetland?		<input checked="" type="radio"/> Yes <input type="radio"/> No
Remarks:		

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/1/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTNER / BOSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>5</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID <u>old pond</u>
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>N 4</u>
(If needed, explain on reverse)	<u>ALBERTA PARK</u>

**VEGETATION**

Dominant Plant Species	Relative Cover		Indicator Status
	% Overstory	% Understory	
1. <u>Eleocharis palustris</u>	—	40	OBL
2. <u>Carex aquatilis</u>	—	30	OBL
3. <u>Carex unculata</u>	—	30	OBL
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC)	Total % Overstory _____	Total % Understory <u>100</u>
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Remarks: Absolute veg cov < 50%; looks like old (newer) pond

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p>____ Stream, Lake or Tide Gauge</p> <p>____ Aerial Photographs</p> <p>____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>No saturation now, but likely ponded until early spring</u>  <u>100% of veg is OBL</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>____ Inundated</p> <p>____ Saturated in Upper 12 inches</p> <p>____ Water Marks <u>fine grained alluvial</u></p> <p>____ Drift Lines <u>deposition</u></p> <p><input checked="" type="checkbox"/> Sediment Deposits</p> <p>____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>____ Oxidized Root Channels in Upper 12 inches</p> <p>____ Water-Stained Leaves</p> <p>____ Local Soil Survey Data</p> <p>____ FAC- Neutral Test</p> <p>____ Other (Explain in Remarks)</p>
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## SOILS

p.t 5 Village et Wolf CK 8/1/05

Map Unit Name  
(Series and Phase):

Drainage Class:

Field Observations

Confirm Mapped Type? Yes No

Taxonomy (Subgroup): Thapto-Histic Cryaquolls

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8	A	7.5YR 2.5/2	—	—	L, 2 f g
8-20	Oeb	7.5YR 2.5/2	—	—	organic material
20-23	Ab	7.5YR 2.5/2	7.5YR 4/4	f, l, d	L, —

## Hydric Soil Indicators:

- ☐ Histosol  
☒ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☐ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

## Remarks:

No saturation but soil is wet. Histic epipedon is buried by recent fine-grain alluvium. Sparse veg. Probably old pond that filled in. Is just now drying up.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

☒ Yes No (Circle)  
☒ Yes No  
☒ Yes No

Wetland Hydrology Present?

Hydric Soils Present?

(Circle)

Is this Sampling Point Within a Wetland? ☒ Yes No

## Remarks:

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE @ WOLF CREEK</u>	DATE <u>8/1/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>6</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID <u>wet meadow</u>
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>ALBEMAR PARK</u>
(If needed, explain on reverse) <span style="float: right;"><u>see map</u></span>	

VEGETATION

Dominant Plant Species	Relative Cover	Indicator Status
	% Overstory	% Understory
1. <u>Carex muscicata</u>	-	40
2. <u>Carex aquatilis</u>	-	50
3. <u>Pedicularis groenlandica</u>	-	70
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____
7. _____	_____	_____
8. _____	_____	_____
9. _____	_____	_____
10. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory <u>1</u>	Total % Understory <u>100</u>
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Remarks: \_\_\_\_\_

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit <u>8</u> (in.)</p> <p>Depth to Saturated Soil <u>8</u> (in.)</p> <hr/> <p>Remarks: <u>saturated to surface</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC- Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

Pit 6

Village at Wolf CK.

8/1/05

Map Unit Name  
(Series and Phase):

Drainage Class:

Field Observations

Confirm Mapped Type? Yes No

Taxonomy (Subgroup):

Typic Crychermists

## Profile Description:

Depth  
(inches)

Horizon

Matrix Color  
(Munsell Moist)Mottle Colors  
(Munsell Moist)Mottle  
Abundance/ContrastTexture, Concretions,  
Structure, etc.

0-17

Oe

7.5YR 2.5/2

organic material

## Hydric Soil Indicators:

- ☒ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☐ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks: Soil is saturated to the surface, on flood plain of small CK. Histosol mainly Oe some Oi.

Small CK is being fed by a spring + seeps.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No (Circle)

Wetland Hydrology Present?

Yes No

Hydric Soils Present?

Yes No

(Circle)

Is this Sampling Point Within a Wetland?

Yes No

Remarks:

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE @ WOLF CREEK</u>	DATE <u>8/1/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTMAN / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>7</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID <u>hillside seep</u>
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>Albion meadow</u>
(If needed, explain on reverse)	

VEGETATION

Dominant Plant Species	Relative Cover		Indicator Status
	% Overstory	% Understory	
1. <u>Senecio triangulans</u>	—	20	OBL
2. <u>Veratrum tenuipetalum</u>	—	20	FACW
3. <u>Aconitum columbianum</u>	—	20	FACW
4. <u>Melensia ciliata</u>	—	20	OBL
5. <u>Calamagrostis canadensis</u>	—	20	OBL
6. _____	—	—	—
7. _____	—	—	—
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory <u>—</u>	Total % Understory <u>100</u>
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Remarks: \_\_\_\_\_

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water <u>—</u> (in.)</p> <p>Depth to Free Water in Pit <u>10</u> (in.)</p> <p>Depth to Saturated Soil <u>10</u> (in.)</p> <hr/> <p>Remarks: <u>saturated 10" + below</u> <u>seeping just west of here</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC- Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

Pit 7 Village at Wolf Ck 8/1/05

Map Unit Name  
(Series and Phase):

Drainage Class:

Very

poorly

Field Observations

Taxonomy (Subgroup):

Thapto-Histic Cryaquolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth

(inches)

Horizon

Matrix Color

(Munsell Moist)

Mottle Colors

(Munsell Moist)

Mottle

Abundance/Contrast

Texture, Concretions, -

Structure, etc.

0-11

A

10YR 2/2

7.5YR 4/4

F, 1+2, d

L, 2 f ga

11-25

Oeb

7.5YR 2.5/2

—

—

organic material

&gt;25

cobble

—

—

—

—

## Hydric Soil Indicators:

- ☐ Histosol  
☒ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☐ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

on back slope

## Remarks:

Histic epipedon. Soil is close to Histosol, probably on this lower back slope. Soil is saturated below 10". This back slope is seeping near the forest edge.

Springs are just to the SW.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes

No (Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

(Circle)

Is this Sampling Point Within a Wetland?

Yes

No

## Remarks:

Approved by HQUSACE 3/92



DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE @ WOLF CREEK</u>	DATE <u>8/1/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTIMER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>8</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>ALBERTA PARK</u>
(If needed, explain on reverse)	

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Picea engelmannii</u>	100	-	FACU =
2. <u>Senecio triangulay</u>	-	30	OBL
3. <u>Micranthes odontoline</u>	-	10	FACW+
4. <u>Oxypolis fendleri</u>	-	10	OBL
5. <u>Cardamine cordifolia</u>	-	30	FACW+
6. <u>Epilobium cf. halleanum</u>	-	10	FAC+
7. <u>Calamagrostis canadensis</u>	-	10	OBL
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)		Total % Overstory <u>0</u>	Total % Understory <u>100</u>
Remarks: <u>50/20 RULE: 3 are dominant, 2 of which are hydrophytes = 66.6% to 75% - makes it</u>			

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>____ Stream, Lake or Tide Gauge</p> <p>____ Aerial Photographs</p> <p>____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>Probably saturated earlier in season by highground water associated c seep</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>____ Inundated</p> <p>____ Saturated in Upper 12 inches</p> <p>____ Water Marks</p> <p>____ Drift Lines</p> <p>____ Sediment Deposits</p> <p>____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p>____ Water-Stained Leaves</p> <p>____ Local Soil Survey Data</p> <p>____ FAC- Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

P. + 8

Village at Wolf CK

8/1/05

Map Unit Name  
(Series and Phase):Drainage Class: poorly  
Field Observations

Taxonomy (Subgroup):

Angie Cryaguoilis

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-11	A	10YR2/2	7.5YR4/4	C, 1+2, d	L, 2 f g
11-15	BT	7.5YR3/2	7.5YR4/4	C, 1+2, d	L, 2 m sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

No saturation but soil is wet. Oxidized root channels + mottles present. In forest, on edge.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No (Circle)

Wetland Hydrology Present?

Yes No

Hydric Soils Present?

Yes No

(Circle)

Is this Sampling Point Within a Wetland?

Yes No

Remarks:

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE OF WOLF CREEK</u>	DATE <u>8/1/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>Mineral</u>
Investigator <u>ORTON R. BUSCH</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>9</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID <u>transitional meadow</u>
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>near Uag #204</u>
(If needed, explain on reverse) <u>Central Alberta Park</u>	

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Deschampsia caespitosa</u>	—	20	<u>FACU</u>
2. <u>Veratrum tenuipes</u>	—	10	<u>FACU</u>
3. <u>Phleum commutatum</u>	—	10	<u>FAC</u>
4. <u>Potentilla pulcherrima</u>	—	10	<u>NL</u>
5. <u>Eriogonum ch. coulteri</u>	—	10	<u>FACU</u>
6. <u>Calamagrostis canadensis</u>	—	10	<u>OBL</u>
7. <u>Achillea lanulosa</u>	—	10	<u>FACU</u>
8. <u>Vernicandrus</u>	—	10	<u>FACU</u>
9. <u>Cassiopeja sulphurea</u>	—	10	<u>FACU</u>
10. _____	—	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) Total % Overstory — Total % Understory 60

Remarks: located on outer edge of wetland

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input checked="" type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>not a wetland hydrology</u> <u>FAC- test: 4 spp wetter than FAC</u> <u>4 spp drier than FAC: FAILS</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC- Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

Pit 9, Village at Wolf Ck 8/1/05

Somewhat

Map Unit Name  
(Series and Phase):

Drainage Class:

poorly

Field Observations

Taxonomy (Subgroup):

Oxyaquic Argicryolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	A	10YR 3/2	—	—	L, 2 f g
6-13	Bt	10YR 3/3	7.5YR 4/4	c 1+3 d	L, 2 m sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☐ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

## Remarks:

Near saddle, mottles & oxidized root channels  
in Bt horizon but chroma is too light. Gets  
saturated around roots & macro pores but matrix  
does not get reduced. soil

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes <input type="radio"/> No <input checked="" type="radio"/> (Circle)	Is this Sampling Point Within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> (Circle)
Wetland Hydrology Present?	Yes <input type="radio"/> No <input checked="" type="radio"/> (Circle)	
Hydric Soils Present?	Yes <input type="radio"/> No <input checked="" type="radio"/> (Circle)	
Remarks:		

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE @ WOLF CREEK</u>	DATE <u>8/1/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTINOR / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>10</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Location ID <u>20' SE 4 PITS</u>
(If needed, explain on reverse)	<u>ALBERTA PARK</u>

**VEGETATION**

Dominant Plant Species	Relative Cover	% Overstory	% Understory	Indicator Status
1. <u>Verrucaria tenuipetala</u>			<u>20</u>	<u>FACW</u>
2. <u>Deschampsia cespitosa</u>			<u>20</u>	<u>FACW</u>
3. <u>Phleum commutatum</u>			<u>20</u>	<u>FAC</u>
4. <u>Poa annua</u>			<u>10</u>	<u>FACW</u>
5. <u>Bistorta bistortoides</u>			<u>10</u>	<u>FAC</u>
6. <u>Calamagrostis canadensis</u>			<u>20</u>	<u>OBL</u>
7. _____				
8. _____				
9. _____				
10. _____				

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC) \_\_\_\_\_ Total % Overstory — Total % Understory 100

Remarks: \_\_\_\_\_

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>likely saturated in early spring. 3 dom. spp. wetter than FAC, 0 spp. drier than FAC.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input checked="" type="checkbox"/> FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

pit 10

Village at Wolf CK

8/1/05

Map Unit Name  
(Series and Phase):Drainage Class: poorly  
Field Observations  
Confirm Mapped Type? Yes No

Taxonomy (Subgroup):

Aquic Argicryolls

## Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	A1	10YR3/2	—	—	L, 2 f gr
4-12	A2	10YR3/2	7.5YR4/4	C 1+2, d	L, 2 m sbk
12-15	Bt	7.5YR3/3	7.5YR4/4	C, 1+2, f	L, 2 m sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

No saturation. Mottle + oxidized root channels below 4".

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>Yes</u> No (Circle)	(Circle)
Wetland Hydrology Present?	<u>Yes</u> No	
Hydric Soils Present?	<u>Yes</u> No	
Is this Sampling Point Within a Wetland?		<u>Yes</u> No
Remarks:		

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE C WOLF CREEK</u>	DATE <u>8/1/05</u>
Applicant/Owner _____	COUNTY <u>MINERAL</u>
Investigator <u>WOLF CREEK SKI AREA</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>11</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>Free Island</u>
(If needed, explain on reverse)	
<u>in Arbuta Park</u>	

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Carex fluviatilis</u>	—	70	NI [FACU]
2. <u>Cladium tachycardus</u>	—	20	FACU
3. <u>Achillea lanulosa</u>	—	10	FACU
4. _____	—	—	—
5. _____	—	—	—
6. _____	—	—	—
7. _____	—	—	—
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory 0

Remarks: cell # 1 - verify at herbarium - Carex fluviatilis

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>Not a wetland hydrology</u>  <u>sedge is dried up looking, topographically</u>  <u>higher than rest of wetland</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>— Inundated</p> <p>— Saturated in Upper 12 inches</p> <p>— Water Marks</p> <p>— Drift Lines</p> <p>— Sediment Deposits</p> <p>— Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required): <u>none</u></p> <p>— Oxidized Root Channels in Upper 12 inches</p> <p>— Water-Stained Leaves</p> <p>— Local Soil Survey Data</p> <p>— FAC Neutral Test</p> <p>— Other (Explain in Remarks)</p>
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## SOILS

Pit 11

Village at Wolf CK 8/1/05

Map Unit Name  
(Series and Phase):

Drainage Class:

mod  
well

Field Observations

Taxonomy (Subgroup):

Pachic Haplocryolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-9	A	10YR 3/2	—	—	L, 2 f gr
9-14	Bw	10YR 3/3	—	—	L, 2 m sbk

## Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors

- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

On edge of small hill. No mottles, no oxidized root channels, dry soil.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes ☒ (No) (Circle)

Wetland Hydrology Present?

Yes ☒ (No) (Circle)

Hydric Soils Present?

Yes ☒ (No) (Circle)

Is this Sampling Point Within a Wetland?

(Circle)

Yes ☒ (No) (Circle)

Remarks:

\* checked soil in swale just below pit 11,  
few faint mottles in Bw and chroma is too  
light (10YR 3/3)

Approved by HQUSACE 3/92



**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/1/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHOVER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>12</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>ALBERTA PARK</u>
(If needed, explain on reverse)	

**VEGETATION**

Dominant Plant Species	% Overstory	Relative Cover % Understory	Indicator Status
1. <u>Calamagrostis canadensis</u>	-	50	OBL
2. <u>Deschampsia caespitosa</u>	-	10	FACW
3. <u>Phleum commutatum</u>	-	10	FAC
4. <u>Eugenia corymbosa</u>	-	5	FACW
5. <u>Podisera castwoodii</u>	-	5	NL
6. <u>Potentilla pulcherrima</u>	-	5	NL
7. <u>Veronica nitens</u>	-	5	FACU [FAC]
8. <u>Solidago multiradiata</u>	-	5	FACU
9. <u>Antennaria corymbosa</u>	-	5	FACW
10. _____	-	-	-
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)		Total % Overstory <u>80</u>	Total % Understory <u>80</u>
Remarks: _____			

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>This area likely has a high groundwater table in the spring</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><u>X</u> _____ Oxidized Root Channels in Upper 12 inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC Neutral Test</p> <p><u>X</u> _____ Other (Explain in Remarks)</p>
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## SOILS

Pit 12

Village at Wolf Cr 8/1/05

somewhat

Map Unit Name  
(Series and Phase):

Drainage Class:

Field Observations

Confirm Mapped Type? Yes No

Taxonomy (Subgroup):

Cumulic Cryogollis

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	A1	10YR3/2	—	—	L, 2 f g
5-13	A2	10YR3/2	7.5YR4/4	C 1+2, d	cl L, 1. m sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Glayed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

## Remarks:

on toe slope of small hill. No saturation,  
mottles & oxidized root in A2 horizon.  
Chroma of A2 is really 2.5 so called it

hydric. - very close

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes

No (Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

(Circle)

Is this Sampling Point Within a Wetland?

Yes

No

## Remarks:

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/2/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTIMER/BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>13</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>roadside ditch</u>
(If needed, explain on reverse) <u>near # 419</u>	

**VEGETATION**

Dominant Plant Species	Relative Cover		Indicator Status
	% Overstory	% Understory	
1. <u>Deschampsia caespitosa</u>	—	20	<u>FACW</u>
2. <u>Pedicularis groenlandica</u>	—	10	<u>OBL</u>
3. <u>Tussock willi'i</u>	—	10	<u>FACW-</u>
4. <u>Juncus saximontanus</u>	—	10	<u>FACW+</u>
5. <u>Carex illota</u>	—	30	<u>OBL</u>
6. <u>Phleum commutatum</u>	—	20	<u>FAC</u>
7. _____	—	—	_____
8. _____	—	—	_____
9. _____	—	—	_____
10. _____	—	—	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory _____	Total % Understory <u>100</u>
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Remarks: upper 3" of soil likely disturbed from road construction

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p> <input type="checkbox"/> Stream, Lake or Tide Gauge  <input type="checkbox"/> Aerial Photographs  <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available         </p> <hr/> <p>Field Observations:</p> <p>           Depth of Surface Water _____ (in.)            Depth to Free Water in Pit <u>7</u> (in.)            Depth to Saturated Soil <u>7</u> (in.)         </p> <hr/> <p>Remarks: <u>Saturated 7" below</u>  <u>Hillside seep water collecting</u>  <u>here</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p> <input type="checkbox"/> Inundated  <input checked="" type="checkbox"/> Saturated in Upper 12 inches  <input type="checkbox"/> Water Marks  <input type="checkbox"/> Drift Lines  <input type="checkbox"/> Sediment Deposits  <input type="checkbox"/> Drainage Patterns in Wetlands         </p> <p>Secondary Indicators (2 or more required):</p> <p> <input type="checkbox"/> Oxidized Root Channels in Upper 12 inches  <input type="checkbox"/> Water-Stained Leaves  <input type="checkbox"/> Local Soil Survey Data  <input type="checkbox"/> FAC Neutral Test  <input type="checkbox"/> Other (Explain in Remarks)         </p>
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## SOILS

Pit 13, Village at Wolf ck 8/2/05

Map Unit Name  
(Series and Phase):

Drainage Class:

poorly

Field Observations

Taxonomy (Subgroup):

Aquic Entrochrypts?

Confirm Mapped Type?

Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	A	10YR 3/2	10YR 4/4	C, 1+2, d	SL,
5-13	EaBw	10YR 4/2	10YR 4/4	C, 1+2, d	gel L,

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

## Remarks:

along road. Soil is saturated below 7". Upper 5" disturbed from road construction.

Hydrology — hill side is seeping up from here.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

☒ Yes No (Circle)  
☒ Yes No  
☒ Yes No

Wetland Hydrology Present?

Hydric Soils Present?

(Circle)

Is this Sampling Point Within a Wetland?

☒ Yes No

## Remarks:

Put pit in about 30' up from Pit 13 along road & is hydric but not saturated.

Note: on 9/19/05 Anita Culp of the Corps said this wetland is a "ditch constructed in uplands" + not jurisdictional.

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE @ WOLF CREEK</u>	DATE <u>8/2/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHOX / BUSCH</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>14</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID <u></u>
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>roadside d/d</u>
(If needed, explain on reverse)	<u>W of 13</u>

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Phlox commutata</u>		<u>40</u>	<u>FAC</u>
2. <u>Deschampsia cespitosa</u>		<u>20</u>	<u>FACW</u>
3. <u>Carex micropera</u>		<u>20</u>	<u>FAC</u>
4. <u>Fragaria virginiana</u>		<u>5</u>	<u>FACU</u>
5. <u>Solidago multiradiata</u>		<u>5</u>	<u>FACU</u>
6. <u>Potentilla pucherrima</u>		<u>5</u>	<u>NL</u>
7. <u>Taraxacum officinale</u>		<u>5</u>	<u>FACU+</u>
8. <u></u>			
9. <u></u>			
10. <u></u>			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory <u></u>	Total % Understory <u>80</u>
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Remarks: 1

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input checked="" type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water <u></u> (In.)</p> <p>Depth to Free Water in Pit <u></u> (In.)</p> <p>Depth to Saturated Soil <u></u> (In.)</p> <hr/> <p>Remarks: <u>Not a wetland hydrology</u> <u>probably gets run-in from road</u> <u>but not enough for a wetland</u> <u>hydrology</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC- Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

Pit 14 Village at Wolf CK. 8/2/05

Map Unit Name  
(Series and Phase):Drainage Class: poorlysomewhat

Field Observations

Taxonomy (Subgroup):

Oxyaquic Haplocryolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	A	10YR 3/2	—	—	L, 2 fgr
5-10	Bw	10YR 3/3	7.5YR 4/4	C, 1, d	chl L,
10"	large rock				

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☐ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

Along road side, Mottles in Bw but chroma is too light.

\* Put pit in up gradient from P. 14 about 25' + is hydric — has lower chroma (10YR 3/2) in Bw.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes ☐ No ☒ (Circle)

Wetland Hydrology Present?

Yes ☐ No ☒

Hydric Soils Present?

Yes ☐ No ☒

(Circle)

with mottles

Is this Sampling Point Within a Wetland?

Yes ☐ No ☒

Remarks:

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/2/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINNEAPOLIS</u>
Investigator <u>ORTMUR</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Plot ID <u>15</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID <u>Engelmann spruce</u>
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>in woods</u>
(If needed, explain on reverse)	<u>above # 291-292 NW</u>

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Picea engelmannii</u>	<u>100</u>		<u>FACW -</u>
2. <u>Carex bella</u>		<u>100</u>	<u>FACW</u>
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory 0

Remarks: confirmed ID of Carex at Kelborn; not C. norvegica

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):  <input type="checkbox"/> Stream, Lake or Tide Gauge  <input checked="" type="checkbox"/> Aerial Photographs  <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:          Depth of Surface Water _____ (in.)          Depth to Free Water in Plt _____ (in.)          Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>Not a wetland hydrology</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>nme</u>  <input type="checkbox"/> Inundated  <input type="checkbox"/> Saturated in Upper 12 Inches  <input type="checkbox"/> Water Marks  <input type="checkbox"/> Drift Lines  <input type="checkbox"/> Sediment Deposits  <input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required): <u>nme</u>  <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches  <input type="checkbox"/> Water-Stained Leaves  <input type="checkbox"/> Local Soil Survey Data  <input type="checkbox"/> FAC- Neutral Test  <input type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

Pit 15 Village at Wolf Cr 8/2/05

Map Unit Name  
(Series and Phase):

Drainage Class:

mod.  
well

Field Observations

Taxonomy (Subgroup):

Pachic Haplocryolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-7	A1	10YR3/2	—	—	L, 2 f ga
7-13	A2	10YR3/2	—	—	gl L, 1 m sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☐ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

in forest, No saturation, no mottles, no oxidized root channels.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes ☒ No (Circle)

Wetland Hydrology Present?

Yes ☒ No

Hydric Soils Present?

Yes ☒ No

(Circle)

Is this Sampling Point Within a Wetland?

Yes ☒ No

Remarks:

Approved by HQUSACE 3/92



DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/2/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINNEOTA</u>
Investigator <u>ORTNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>11p</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>NEW #462</u>
(If needed, explain on reverse) <u>wetland H</u>	

VEGETATION

Dominant Plant Species	Relative Cover	Indicator Status
	% Overstory	% Understory
1. <u>Deschampsia cespitosa</u>	_____	30
2. <u>Phalaris communis</u>	_____	20
3. <u>Juncus drummondii</u>	_____	10
4. <u>Trisetum wolfii</u>	_____	10
5. <u>Packeria crocata</u>	_____	5
6. <u>Potentilla pulcherrima</u>	_____	5
7. <u>Achillea lanulosa</u>	_____	5
8. <u>Ranunculus alsinoides</u>	_____	5
9. <u>Antennaria virginica</u>	_____	5
10. <u>Veratrum tenuipetalum</u>	_____	5
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)		Total % Understory <u>90</u>
Remarks: <u>very diverse community</u>		

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>No saturation now, but seep areas above here + likely contributes to hq groundwater in early spring</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

Pit 16 Village at Lake CK 8/2/05

Map Unit Name  
(Series and Phase):

Drainage Class:

Field Observations

Taxonomy (Subgroup):

Cumulic Cryagualls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8	A1	10YR 2/2	7.5YR 4/4	f, l, d	L, 2 Cg
8-15	A2	10YR 3/2	7.5YR 4/4	f, l, d	L, 1 m sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

## Remarks:

No saturation. Few mottles + oxidized root channels throughout

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No (Circle)

Wetland Hydrology Present?

Yes No

Hydric Soils Present?

Yes No

(Circle)

Is this Sampling Point Within a Wetland? Yes No

## Remarks:

No saturation now, but seep is above here so likely is saturated by seep in spring/early summer. 60% FACW plants. Hydric soils.

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE C WOLF CREEK</u>	DATE <u>8/2/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINN</u>
Investigator <u>ORTNER / BUSCHKE</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>17</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID <u>FEN; Alceda Park</u>
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>497</u>
(If needed, explain on reverse)	<u>In open meadow</u>

VEGETATION

Dominant Plant Species	% Overstory	Relative Cover % Understory	Indicator Status
1. <u>Deschampsia caespitosa</u>		<u>20</u>	<u>FACW</u>
2. <u>Carex acutata</u>		<u>20</u>	<u>OBL</u>
3. <u>Syntherisma drummondii</u>		<u>20</u>	<u>FACW</u>
4. <u>Podocarpus greenlandicus</u>		<u>10</u>	<u>OBL</u>
5. <u>Carex leptosepala</u>		<u>10</u>	<u>OBL</u>
6. <u>Epilobium cf. hibernicum</u>		<u>10</u>	<u>FAC+</u>
7. <u>MOSS</u>		<u>10</u>	<u>[OBL]</u>
8. _____			
9. _____			
10. _____			
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC+)		Total % Overstory _____	Total % Understory <u>100</u>
Remarks: <u>MUCH MOSS</u>			

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input checked="" type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water <u>1</u> (in.)</p> <p>Depth to Free Water in Pit <u>0</u> (in.)</p> <p>Depth to Saturated Soil <u>0</u> (in.)</p> <hr/> <p>Remarks: <u>saturated throughout</u> <u>11/5/05</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

Pit 17

Village at Wolf CK 8/2/05

Map Unit Name  
(Series and Phase):

Drainage Class:

Very

Field Observations

poorly

Taxonomy (Subgroup):

Typic Cryoborists

Confirm Mapped Type?

Yes No

## Profile Description:

Depth

(inches)

Horizon

Matrix Color

(Munsell Moist)

Mottle Colors

(Munsell Moist)

Mottle

Abundance/Contrast

Texture, Concretions, -

Structure, etc.

0-18

Oe

10YR3/3

10YR3/2

organic material

## Hydric Soil Indicators:

- ☒ Histosol  
☐ Histic Epipedon  
☐ Sulfide Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☐ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

Histosol. Saturated throughout.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes

No

(Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

(Circle)

Is this Sampling Point Within a Wetland?

Yes

No

Remarks:

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE @ WOLF CREEK</u>	DATE <u>8/2/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHOPE / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>18</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID <u>False Hellebore</u>
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>near UPL 125?</u>
(If needed, explain on reverse)	

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Veratrum tenuipetalum</u>	<u>100</u>	<u>—</u>	<u>FACW</u>
2. <u>Aconitum columbianum</u>	<u>—</u>	<u>25</u>	<u>FACW</u>
3. <u>Geum macrophyllum</u>	<u>—</u>	<u>25</u>	<u>OBL</u>
4. <u>Bromopsis canadensis</u>	<u>—</u>	<u>25</u>	<u>FACU</u>
5. <u>Fragaria virginiana</u>	<u>—</u>	<u>25</u>	<u>FACU</u>
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory <u>—</u>	Total % Understory <u>50</u>
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Remarks: Dense stand of false hellebore ~ 4' tall, IF USED 50/20 rule then 3/5 would make it = yes

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input checked="" type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input checked="" type="checkbox"/> Aerial Photographs</p> <p><input checked="" type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>No saturation now.</u>  <u>Not likely a wetland hydrophyts.</u>  <u>No oxidized rhizospheres.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC- Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

Pit 18

Village at Wolf CK

8/2/05

Map Unit Name  
(Series and Phase):

Drainage Class:

Slightly

poorly

Field Observations

Confirm Mapped Type? Yes No

Taxonomy (Subgroup): Oxyaquic Haploxyolls

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	A1	10YR 3/2	10YR 3/3	F, 1, F	gel 4, 2 fgr
5-13	A2	10YR 3/3	—	—	gel 4, 1 m sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

IN skunk cabbage. Few faint mottles in A1 horizon. No saturation. Not hydric but is near the boundary.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/> No <input type="radio"/> (Circle)	Is this Sampling Point Within a Wetland?	Yes <input type="radio"/> No <input checked="" type="radio"/> (Circle)
Wetland Hydrology Present?	Yes <input checked="" type="radio"/> No <input type="radio"/> (Circle)		
Hydric Soils Present?	Yes <input checked="" type="radio"/> No <input type="radio"/> (Circle)		
Remarks:			

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE @ WOLF C/L</u>	DATE <u>8/2/05</u>
Applicant/Owner _____	COUNTY <u>MINERAL</u>
Investigator <u>OTTOMAR / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>19</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>300' S, Isolated wet 3</u>
(If needed, explain on reverse) <u>N of Alberta Park</u>	

VEGETATION

Dominant Plant Species	Relative Cover		Indicator Status
	% Overstory	% Understory	
1. <u>Senecio triangulatus</u>	—	70	OBL
2. <u>Mertensia ciliata</u>	—	10	OBL
3. <u>Poa cephaloche</u>	—	10	FACW
4. <u>Epilobium halleanum</u>	—	10	FACW
5. _____	—	—	—
6. _____	—	—	—
7. _____	—	—	—
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory <u>—</u>	Total % Understory <u>100</u>
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Remarks: coll # 3 + 4 + confirmed ID at herbarium.

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>No saturation now, but soil wet; High groundwater in spring quite likely.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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SOILS Pit 19 Village at Wolf CK 8/2/05

Map Unit Name  
(Series and Phase):

Drainage Class: poorly

Field Observations

Taxonomy (Subgroup):

Typic Cryaqualfs

Confirm Mapped Type? Yes No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	A	10YR 2/2			L, 2 fgr
6-13	Bt	10YR 4/2	10YR 4/4	M, 1+2, d	SCL, 2 msbk

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors

- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: No saturation but soil is wet, oxidized root channels & mottles in Bt.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?  
Wetland Hydrology Present?  
Hydric Soils Present?

☒ Yes ☐ No (Circle)  
☒ Yes ☐ No  
☒ Yes ☐ No

Is this Sampling Point Within a Wetland?

(Circle)  
☒ Yes ☐ No

Remarks: Wetland is isolated + non-jurisdictional.

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE @ WOLFCK</u>	DATE <u>8/2/05</u>
Applicant/Owner _____	COUNTY <u>MINERAL</u>
Investigator <u>ORDNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>120</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>500'S</u>
(If needed, explain on reverse)	<u>S. 300'S = isolated wet 4</u>

VEGETATION

Dominant Plant Species	Relative Cover		Indicator Status
	% Overstory	% Understory	
1. <u>Senecio triangulans</u>	—	40	<u>OBL</u>
2. <u>Cardamine cordifolia</u>	—	10	<u>FACW+</u>
3. <u>Asmorrhiza depauperata</u>	—	10	<u>NL</u>
4. <u>Juncus drummondii</u>	—	10	<u>FACW</u>
5. <u>Eriogonum cicuter</u>	—	10	<u>FACW</u>
6. <u>Lythra parvifolia</u>	—	10	<u>FAC</u>
7. <u>Poa leptocoma</u>	—	10	<u>FACW</u>
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory 90

Remarks: adjacent to a Abies bifolia, forest opening

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>No saturation now, but high groundwater likely present in early spring.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>nme</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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SOILS P. 1 20 Village at Wolf CK 8/2/05

Map Unit Name (Series and Phase): \_\_\_\_\_ Drainage Class: Somewhat poorly

Taxonomy (Subgroup): Aquic Haplochromis Field Observations: \_\_\_\_\_ Confirm Mapped Type? Yes No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	A	10YR3/2	10YR4/4	f, l, d	L, 2 f g
5-13	Bw	10YR3/3	10YR4/4	f, l, f	L, 1 m s b k

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: In forest. Soil is marginally hydric observed only a couple mottles + one oxidized root channel. No Saturation.

# WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)
Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Remarks: wetland is isolated and not jurisdictional	

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CK</u>	DATE <u>8/2/05</u>
Applicant/Owner <u>WNC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHMAN / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>21</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Community ID <u>fen</u>
Is the area a potential Problem Area? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Location ID <u>600's</u>
(If needed, explain on reverse)	<u>Isolated wetland 2</u>

**VEGETATION**

Dominant Plant Species	% Overstory	Relative Cover % Understory	Indicator Status
1. <u>Chelma leptosepala</u>		<u>20</u>	<u>OBL</u>
2. <u>Oxypolis fendleri</u>		<u>10</u>	<u>OBL</u>
3. <u>Senecio lanuginos</u>		<u>20</u>	<u>OBL</u>
4. <u>Juncus drummondii</u>		<u>10</u>	<u>FACW</u>
5. <u>Epilobium cf. hallianum</u>		<u>20</u>	<u>FAC</u>
6. <u>Oxyc. illota</u>		<u>20</u>	<u>OBL</u>
7. _____			
8. _____			
9. _____			
10. _____			
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC)		Total % Overstory _____	Total % Understory <u>100</u>
Remarks: _____			

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>Saturated to surface</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC- Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

Pit 21

Village of Wolf CK

8/02/05

Map Unit Name  
(Series and Phase):

Drainage Class:

Very  
poorly

Field Observations

Taxonomy (Subgroup):

Histic Cryaquolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	Oe	10YR2/2	—	—	organic material
5-9	Oa	10YR2/2	—	—	organic material
9-16	A	10YR 2/2	10YR 4/4	F, l, d	LL —

## Hydric Soil Indicators:

- ☐ Histosol  
☒ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☐ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

## Remarks:

Histic epipedon? Very close to mineral soil below 5". The A horizon is organic-rich, also is close to being organic.

Soil is saturated throughout.

## WETLAND DETERMINATION

Organic soil not much more than 400 ft<sup>2</sup>.

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Circle)  
 Wetland Hydrology Present? ☒ Yes ☐ No  
 Hydric Soils Present? ☒ Yes ☐ No

Is this Sampling Point Within a Wetland?

(Circle)

☒ Yes ☐ No

## Remarks:

Could be a Histosol. Seep,  
wetland is isolated and non-jurisdictional

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CR</u>	DATE <u>8/2/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>22</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID <u>moist meadow</u>
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>600'S</u>
(If needed, explain on reverse)	<u>N of PITZ</u>

VEGETATION

Dominant Plant Species	% Overstory	Relative Cover % Understory	Indicator Status
1. <u>Calamagrostis canadensis</u>	—	10	OBL
2. <u>Juncus drummondii</u>	—	10	FACW
3. <u>Eragrostis ciliaris</u>	—	20	FACW
4. <u>Phleum pratense</u>	—	10	FAC
5. <u>Bistorta bistortoides</u>	—	5	FAC+
6. <u>Achillea lanulosa</u>	—	20	FACU
7. <u>Ranunculus alsinoides</u>	—	5	FACW
8. <u>Sibbaldia procumbens</u>	—	5	FACU
9. <u>Potentilla pulcherrima</u>	—	5	NL
10. <u>Pachira crocata</u>	—	10	FACW
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC+)		Total % Overstory <u>—</u>	Total % Understory <u>70</u>
Remarks: <u>mixed veg</u>			

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input checked="" type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input checked="" type="checkbox"/> Aerial Photographs</p> <p><input checked="" type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water <u>—</u> (in.)</p> <p>Depth to Free Water in Pit <u>—</u> (in.)</p> <p>Depth to Saturated Soil <u>—</u> (in.)</p> <hr/> <p>Remarks: <u>no saturation now, but likely present in early spring.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

p. 22

Village at Wolf ck. 8/02/05

Map Unit Name  
(Series and Phase):

Drainage Class:

Somewhat

Field Observations

poorly

Taxonomy (Subgroup):

Aquic Haploscryolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-7	A	10YR3/2	10YR4/4	f, l, d	L, 2 fgr
7-10	Bw	10YR3/3	10YR4/4	f, l, f	L, 1 m s6k
>10	rocky				

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

## Remarks:

No saturation. Very few mottles in Lower A horizon + in Bw horizon. Observed one partially oxidized root channel.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No (Circle)

Wetland Hydrology Present?

Yes No

Hydric Soils Present?

Yes No

(Circle)

Is this Sampling Point Within a Wetland?

Yes No

## Remarks:

wetland is isolated and non-jurisdictional

Approved by HQUSACE 3/92



DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE OF WOLF CREEK</u>	DATE <u>8/2/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINNEAPOLIS</u>
Investigator <u>ORTHNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>23</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> <input checked="" type="radio"/> NO</span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> <input checked="" type="radio"/> NO</span>	Location ID <u>700's</u>
(If needed, explain on reverse)	<u>N of 600's, wetland C</u>

VEGETATION

Dominant Plant Species	Relative Cover		Indicator Status
	% Overstory	% Understory	
1. <u>Callitriche leptosepala</u>	—	10	OBL
2. <u>Carex ovalata</u>	—	10	OBL
3. <u>Carex angustior</u>	—	20	OBL
4. <u>Epilobium c. halleanum</u>	—	10	FAC+
5. <u>Deschampsia caespitosa</u>	—	10	FACW
6. <u>Carex illota</u>	—	10	OBL
7. <u>Carex aquatilis</u>	—	20	OBL
8. <u>Paederia crocata</u>	—	10	FACU
9. _____	_____	_____	_____
10. _____	_____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory <u>—</u>	Total % Understory <u>80</u>
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Remarks: \_\_\_\_\_

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input checked="" type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input checked="" type="checkbox"/> Aerial Photographs</p> <p><input checked="" type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Plt _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>Saturated to surface</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC- Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

Pit 23 Village of Wolf CK.

8/2/05

Map Unit Name  
(Series and Phase):

Drainage Class:

very  
poorly

Field Observations

Taxonomy (Subgroup):

Typical Crychermists

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-11	Oe	10YR 2/2	—	—	organic material
11-16	O?/A	10YR 2/2 10YR 3/1	—	—	organic material / 10am

## Hydric Soil Indicators:

- ☒ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☐ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

## Remarks:

Soil is saturated throughout. Lower 5" close to mineral soil & could be. Otherwise is a Histosol.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes

No (Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

(Circle)

Is this Sampling Point Within a Wetland?

Yes

No

## Remarks:

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/2/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>24</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>800's, wetland F</u>
(If needed, explain on reverse)	<u>near N property line</u>

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	Relative Cover % Understory	Indicator Status
1. <u>Chlamydomorpha canadensis</u>	—	70	OBL
2. <u>Caltha leptosepala</u>	—	10	OBL
3. <u>Vernonia tenuipet</u>	—	10	FACW
4. <u>Oxypholis fendleri</u>	—	10	OBL
5. _____	—	—	—
6. _____	—	—	—
7. _____	—	—	—
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC)	Total % Overstory _____	Total % Understory <u>100</u>
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Remarks: not previously mapped by SE group

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p>____ Stream, Lake or Tide Gauge</p> <p>____ Aerial Photographs</p> <p>____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>no saturation now, but high ground water in early spring, seep upslope</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>____ Inundated</p> <p>____ Saturated in Upper 12 inches</p> <p>____ Water Marks</p> <p>____ Drift Lines</p> <p>____ Sediment Deposits</p> <p>____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p>____ Water-Stained Leaves</p> <p>____ Local Soil Survey Data</p> <p>____ FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

Pit 24 Village at Wolf Cr.

8/2/05

Map Unit Name  
(Series and Phase):

Drainage Class:

poorly

Field Observations

Taxonomy (Subgroup):

Typic Cryaqualts

Confirm Mapped Type? Yes No

## Profile Description:

Depth

(inches)

Horizon

Matrix Color

(Munsell Moist)

Mottle Colors

(Munsell Moist)

Mottle

Abundance/Contrast

Texture, Concretions, -

Structure, etc.

0-4

A

10YR2/2

—

—

L 2 fgr

4-12

E?

10YR4/2

10YR4/4

C, H2, d

L/SL

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

No saturation. Mottles + oxidized root channels below 4". Seep up slope.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes

No

(Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

(Circle)

Is this Sampling Point Within a Wetland?

Yes

No

Remarks:

No saturation now, but seep up slope from here, probably saturated in Spring/early summer.  
90% obligate wetland plants. Hydric soils.

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/2/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>25</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Location ID <u>Wetland G</u>
(If needed, explain on reverse)	<u>1100'S</u>

VEGETATION

Dominant Plant Species	Relative Cover		Indicator Status
	% Overstory	% Understory	
1. <u>Deschampsia cespitosa</u>	—	40	<u>FACW</u>
2. <u>Mimulus guttatus</u>	—	10	<u>OBL</u>
3. <u>Juncus drummondii</u>	—	10	<u>FAC</u>
4. <u>Oxypolis fendleri</u>	—	10	<u>OBL</u>
5. <u>Carthra leptosepala</u>	—	10	<u>OBL</u>
6. <u>Cardamine cordiloba</u>	—	10	<u>FACW+</u>
7. <u>Epilobium cf. Nallaeum</u>	—	10	<u>FAC+</u>
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory <u>—</u>	Total % Understory <u>100</u>
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Remarks: old logging road -

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>No saturation now, but wet; high groundwater - not in early spring / summer</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

Pit 25

Village at Wolf CK, 8/2/05

Map Unit Name  
(Series and Phase):

Drainage Class:

poorly

Field Observations

Taxonomy (Subgroup):

Cumulic Cryaqueolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2	A	10YR2/2	—	—	L, 2 f gl
2-14	Bw	10YR3/2	7.5YR4/4	C, 1+2, d	gl scl

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

## Remarks:

On old logging road, probably channels water from seep. Macro pores are saturated soil matrix is hot.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes

No (Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

(Circle)

Is this Sampling Point Within a Wetland?

Yes

No

## Remarks:

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/2/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHWER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>26</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>13005</u>
(If needed, explain on reverse) <u>Isolated wetland 6</u>	

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	Relative Cover % Understory	Indicator Status
1. <u>Calamagrostis canadensis</u>	—	90	OBL
2. <u>Veratrum tenuipetalum</u>	—	10	FACW
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory _____	Total % Understory <u>100</u>
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Remarks: opening in spruce

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (In.)</p> <p>Depth to Free Water in Plt _____ (In.)</p> <p>Depth to Saturated Soil _____ (In.)</p> <hr/> <p>Remarks: <u>not saturated now but high groundwater earlier in season is likely present</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>nme</u></p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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SOILS Pit 26

Village of Wolf ck

8/2/05

Map Unit Name  
(Series and Phase):

Drainage Class:

Field Observations

Taxonomy (Subgroup):

Cumulic Cryaqualls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	A1	10YR2/2	—	—	L, 2 fgr
3-12	A2	10YR3/2	10YR4/4	C, 1+2, d	L, 1 m sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☒ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chrome Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

No saturation, mottles + oxidized root channels in A2.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes

No (Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

Is this Sampling Point Within a Wetland?

(Circle)

Yes No

Remarks:

No saturation now, but probably saturated in spring/early summer. 90% obligate wetland plants. Hydric soils.

Wetland is isolated and non-jurisdictional

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/2/05</u>
Applicant/Owner <u>WNC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHNER/BOSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? YES <input checked="" type="radio"/> NO <input type="radio"/>	Plot ID <u>27</u>
Is the site significantly disturbed (Atypical Situation)? YES <input type="radio"/> NO <input checked="" type="radio"/>	Community ID _____
Is the area a potential Problem Area? YES <input type="radio"/> NO <input checked="" type="radio"/>	Location ID <u>near isolated wetland 7</u>
(If needed, explain on reverse)	

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	Relative Cover % Understory	Indicator Status
1. <u>Seneccio triangularis</u>	—	30	<u>OBL</u>
2. <u>Eragrostis ciliaris</u>	—	20	<u>FACW</u>
3. <u>Bromopsis canadensis</u>	—	10	<u>FACU</u>
4. <u>Stellaria umbellata</u>	—	10	<u>FAC+</u>
5. <u>Trisetum spicatum</u>	—	5	<u>FACU</u>
6. <u>Pseudocymopterus montanus</u>	—	5	<u>NL</u>
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory 60

Remarks: just downstream (W) of jeep road where trees laying across road

HYDROLOGY

<p>Recorded Data (Describe in Remarks):  <input type="checkbox"/> Stream, Lake or Tide Gauge  <input type="checkbox"/> Aerial Photographs  <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:          Depth of Surface Water _____ (in.)          Depth to Free Water in Pit _____ (in.)          Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>NO oxidized root channels, so we don't have 2° indicators. Not a wetland hydrology.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Inundated</li> <li><input type="checkbox"/> Saturated in Upper 12 Inches</li> <li><input type="checkbox"/> Water Marks</li> <li><input type="checkbox"/> Drift Lines</li> <li><input type="checkbox"/> Sediment Deposits</li> <li><input type="checkbox"/> Drainage Patterns in Wetlands</li> </ul> <p>Secondary Indicators (2 or more required): <u>none</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</li> <li><input type="checkbox"/> Water-Stained Leaves</li> <li><input type="checkbox"/> Local Soil Survey Data</li> <li><input type="checkbox"/> FAC Neutral Test</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul>
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SOILS P4 27

Village @ Wolf CK

8/2/05

Map Unit Name  
(Series and Phase):Drainage Class: somewhat  
poorly  
Field Observations  
Confirm Mapped Type? Yes NoTaxonomy (Subgroup): Aquic Haplocryolls

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	A1	7.5YR 3/2	7.5YR 4/4	L, 1, d	L, 2 f g
5-14	A2	7.5YR 3/3	7.5YR 4/4	L, 1, f	L, 1 m sbk

## Hydric Soil Indicators:

- |   |   |
|---|---|
| <input type="checkbox"/> Histosol                               | <input type="checkbox"/> Concretions  |
| <input type="checkbox"/> Histic Epipedon                        | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor                          | <input type="checkbox"/> Organic Streaking in Sandy Soils                     |
| <input checked="" type="checkbox"/> Aquic Moisture Regime       | <input type="checkbox"/> Listed on Local Hydric Soils List                    |
| <input type="checkbox"/> Reducing Conditions                    | <input type="checkbox"/> Listed on National Hydric Soils List                 |
| <input checked="" type="checkbox"/> Gleyed or Low-Chrome Colors | <input type="checkbox"/> Other (Explain in Remarks)                           |

Remarks: No saturation. Few mottles in the A+ but  
no oxidized root channels. Hydrology is probably

lacking

## WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Circle)  
Wetland Hydrology Present? ☐ Yes ☒ No  
Hydric Soils Present? ☒ Yes ☐ No

Is this Sampling Point Within a Wetland? Yes ☒ No

Remarks:

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE @ WOLF CREEK</u>	DATE <u>8/2/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTINER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>28</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>N 127, 7</u> <span style="float: right;"><i>isolated wet</i></span>
(If needed, explain on reverse) <u>below jeep trail 1500'</u>	

VEGETATION

Dominant Plant Species	Relative Cover		Indicator Status
	% Overstory	% Understory	
1. <u>Senecio trianguloris</u>	—	20	<u>OBL</u>
2. <u>Eriogon coulteri</u>	—	30	<u>FACW</u>
3. <u>Poa leptocoma</u>	—	10	<u>FACW</u>
4. <u>Osmorhiza depauperata</u>	—	10	<u>NL</u>
5. <u>Fragaria virginiana</u>	—	10	<u>FACU</u>
6. <u>Bromopsis canadensis</u>	—	20	<u>FACU</u>
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory <u>—</u>	Total % Understory <u>60</u>
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Remarks: opening in forest, blow down trees nearby

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>Marginal area, but we assumed a wetland hydrology here high groundwater in spring likely present</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

P. + 28

Village at Wolf ck

8/2/05

Map Unit Name

(Series and Phase):

Drainage Class:

poorly

Somewhat

Field Observations

Taxonomy (Subgroup):

Aquic Haplo cryolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	A	10YR 2/2	10YR 4/4	F, 1, d	L 2 m sbk
4-12	Bw	10YR 3/3	—	—	cbk L, 2 m sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

No saturation, observed a couple mottles + few oxidized root channels in A horizon.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes

No (Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

(Circle)

Is this Sampling Point Within a Wetland?

Yes

No

Remarks:

wetland is isolated and non-jurisdictional

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/2/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTNER/BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>29</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Location ID <u>drainage "A"</u>
(If needed, explain on reverse)	<u>abmc rd; 1000's; wet</u>

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Deschampsia caespitosa</u>	—	20	<u>FACW</u>
2. <u>Phleum commutatum</u>	—	10	<u>FAC</u>
3. <u>Antennaria ovata</u>	—	10	<u>FACW</u>
4. <u>Packera creata</u>	—	10	<u>FACW</u>
5. <u>Sibbaldia procumbens</u>	—	10	<u>FACU</u>
6. <u>Potentilla pulcherrima</u>	—	10	<u>NL</u>
7. <u>Achillea lanulosa</u>	—	10	<u>FACU</u>
8. <u>Inula spicata</u>	—	10	<u>FACU</u>
9. <u>Thysanotus waltii</u>	—	10	<u>FACW</u>
10. _____	—	—	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory <u>—</u>	Total % Understory <u>60</u>
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Remarks: \_\_\_\_\_

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Plt _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>Assumed a wetland hydrology here. Downslope from seeps</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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SOILS p. 29

Village Wolf ck.

8/2/05

Map Unit Name  
(Series and Phase):

Drainage Class:

somewhat  
poorly

Taxonomy (Subgroup):

Aquic Haplocryolls

Field Observations

Confirm Mapped Type? Yes No

## Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	A1	7.5YR 3/2	7.5YR 4/4	f, l, d	L, 2 f gk
5-14	A2	7.5YR 3/3	—	—	L, 2 m sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks: No saturation, few mottles &amp; oxidized root channels.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

☒ Yes

No (Circle)

(Circle)

Wetland Hydrology Present?

☒ Yes

No

Hydric Soils Present?

☒ Yes

No

Is this Sampling Point Within a Wetland?

☒ Yes

No

Remarks:

No saturation now, probably saturated in  
Spring/early summer. Hydric soil, 50% FACW  
plants.

Approved by HQUSACE 3/92



DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CR</u>	DATE <u>8/2/05</u>
Applicant/Owner <u>WMC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>30</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Community ID <u>Moist meadow</u>
Is the area a potential Problem Area? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Location ID <u>1700's</u>
(If needed, explain on reverse)	<u>Isolated wetland 9</u>

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Carex micropera</u>	—	50	<u>FAC</u>
2. <u>Deschampsia cespitosa</u>	—	30	<u>FACW</u>
3. <u>Ligularia biolorvii</u>	—	10	<u>NL</u>
4. <u>Epilobium cf. halicanum</u>	—	10	<u>FAC+</u>
5. _____	—	—	—
6. _____	—	—	—
7. _____	—	—	—
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory <u>—</u>	Total % Understory <u>90</u>
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Remarks: \_\_\_\_\_

HYDROLOGY

<p>Recorded Data (Describe in Remarks):  <input type="checkbox"/> Stream, Lake or Tide Gauge  <input type="checkbox"/> Aerial Photographs  <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:          Depth of Surface Water <u>—</u> (in.)          Depth to Free Water in Plt <u>—</u> (in.)          Depth to Saturated Soil <u>—</u> (in.)</p> <p>Remarks: <u>No saturation now but high groundwater in spring is likely. Seep near here</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>nme</u>  <input type="checkbox"/> Inundated  <input type="checkbox"/> Saturated in Upper 12 inches  <input type="checkbox"/> Water Marks  <input type="checkbox"/> Drift Lines  <input type="checkbox"/> Sediment Deposits  <input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):  <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches  <input type="checkbox"/> Water-Stained Leaves  <input type="checkbox"/> Local Soil Survey Data  <input type="checkbox"/> FAC Neutral Test  <input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

pit 30

Village + Wolf CK

8/2/05

Map Unit Name

(Series and Phase):

Drainage Class:

poorly

Field Observations

Taxonomy (Subgroup):

Typic Cryaquolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	A1	10YR 3/2 10YR 3/1	7.5YR 4/4	m, 1+2, p	L, 2 m gl
5-10	B	10YR 3/2	7.5YR 4/4	m 1+2, p	SC L, 2 m 56k
>10	very rocky				

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

No saturation. Many mottles + oxidized root channels throughout - disturbed?

Hillside is seeping, some saturated soils, -  
checked for organic soils - there are none.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes

No (Circle)

(Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

Is this Sampling Point Within a Wetland?

Yes

No

Remarks:

Wetland is isolated and non-jurisdictional.

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/2/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>Mineral</u>
Investigator <u>ORTHNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>31</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>across rd from</u>
(If needed, explain on reverse)	<u>#416 1800's</u>

*Isolated wetland 10*

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Calamagrostis canadensis</u>	—	80	OBL
2. <u>Ligularia biglovei</u>	—	10	NL
3. <u>Eriogon roulletii</u>	—	10	FACW
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory _____	Total % Understory <u>90</u>
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Remarks: \_\_\_\_\_

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>Questionable wetland hydrology here, but we assumed it was present</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required): <u>none</u></p> <p>_____ <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ <input checked="" type="checkbox"/> Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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*b/c there is a steep above here*

## SOILS

P.t 31 Village at Wolk CK

8/2/05

Map Unit Name  
(Series and Phase):Drainage Class: somewhatField Observations poorly

Taxonomy (Subgroup):

Aquic Haplocryolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	A1	7.5YR 2.5/2	—	—	L. 2 f r
5-8	A2	7.5YR 3/2	10YR 4/4	f, l, d	g.l L, 1 m sbk
8-11	Bw	7.5YR 3/3	10YR 4/4	f, l, f	g.l L, 1 m sbk
>11	very rocky				

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

## Remarks:

Just below road. No saturation. Few mottles  
 + oxidized root channels below 5".

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No (Circle)

Wetland Hydrology Present?

Yes No

Hydric Soils Present?

Yes No

(Circle)

Is this Sampling Point Within a Wetland?

Yes No

## Remarks:

wetland is isolated and non-jurisdictional

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CR</u>	DATE <u>8/2/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>Mineral</u>
Investigator <u>ORTINAR / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>32</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>cross from large spoils, isolated wetland II</u>
(If needed, explain on reverse)	

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Calamagrostis canadensis</u>	—	80	OBL
2. <u>Carex diquatis</u>	—	20	OBL
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory <u>—</u>	Total % Understory <u>100</u>
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Remarks: coll #2V - O.K.

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (In.)</p> <p>Depth to Free Water in Pit _____ (In.)</p> <p>Depth to Saturated Soil _____ (In.)</p> <hr/> <p>Remarks: <u>we assumed hyd. here water ponded in rd. adjacent to here. Seasonal seep?</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none now</u></p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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SOILS Pit 32

Village @ Walk CK

8/2/05

Map Unit Name  
(Series and Phase):

Drainage Class:

somewhat

Field Observations

poorly

Taxonomy (Subgroup):

Typic Cryaquolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	A1	7.5YR3/2	7.5YR4/4	f, l, d	gl L 2 f g
5-16	A2	7.5YR3/2	7.5YR4/4	f, l, d	gl L 2 m sbk
>10	rocky				

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

No saturation. Few mottles + oxidized root channels throughout.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes

No (Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

(Circle)

Is this Sampling Point Within a Wetland?

Yes

No

Remarks:

wetland is isolated and non-jurisdictional.

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CK</u>	DATE <u>8/2/05</u>
Applicant/Owner <u>IWC</u>	COUNTY <u>Mineral</u>
Investigator <u>ORTNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>33</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>20004</u>
(If needed, explain on reverse)	<u>Wetland I</u>

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Calamagrostis canadensis</u>		<u>30</u>	<u>OBL</u>
2. <u>Deschampsia caespitosa</u>		<u>20</u>	<u>FACW</u>
3. <u>Calma leptosepala</u>		<u>20</u>	<u>OBL</u>
4. <u>Veronica nutans</u>		<u>5</u>	<u>FACW [FAC]</u>
5. <u>Epilobium hillebrandii</u>		<u>5</u>	<u>FACW</u>
6. <u>Ranunculus abortivus</u>		<u>5</u>	<u>FACW</u>
7. <u>Pachera crocata</u>		<u>5</u>	<u>FACW</u>
8. _____			
9. _____			
10. _____			
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)		Total % Overstory _____	Total % Understory <u>95</u>
Remarks: _____			

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p>____ Stream, Lake or Tide Gauge</p> <p>____ Aerial Photographs</p> <p>____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>no saturation now, but is in drainage swale that receives runoff from Alberta Park some saturation near here.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>____ Inundated</p> <p>____ Saturated in Upper 12 Inches</p> <p>____ Water Marks</p> <p>____ Drift Lines</p> <p>____ Sediment Deposits</p> <p>____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p>____ Water-Stained Leaves</p> <p>____ Local Soil Survey Data</p> <p>____ FAC- Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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SOILS #33

8/2/05

Map Unit Name

(Series and Phase):

Drainage Class:

Field Observations

Confirm Mapped Type? Yes No

Taxonomy (Subgroup): Aquic Argicryolls

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	A1	10YR3/2	—	—	L, 2 fgs
4-8	A2	10YR3/2	7.5YR4/4	C, 1+2, d	L, 2 m s b k
8-11	BE	10YR3/3	7.5YR4/4	C, 1+2, f	CL —

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks: No saturation, mottles + oxidized root channels below 4"

## WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes No (Circle)  
 Wetland Hydrology Present? ☒ Yes No  
 Hydric Soils Present? ☒ Yes No

Is this Sampling Point Within a Wetland? ☒ Yes No  
 (Circle)

Remarks:

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CR</u>	DATE <u>8/3/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>34</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>Albion Park - central</u>
(If needed, explain on reverse) <u>near Plot 143 (W-9)</u>	

**VEGETATION**

Dominant Plant Species	% Overstory	Relative Cover	% Understory	Indicator Status
1. <u>Deschampsia caespitosa</u>	—	—	10	FACW
2. <u>Phleum commutatum</u>	—	—	10	FAC
3. <u>Bistorta bistortoides</u>	—	—	10	FAC+
4. <u>Sibbaldia procumbens</u>	—	—	10	FACU
5. <u>Potentilla pulcherrima</u>	—	—	10	NL
6. <u>Podisterna oastwoodii</u>	—	—	10	NL
7. <u>Achillea lanulosa</u>	—	—	10	FACU
8. <u>Danthonia pargyrii</u>	—	—	10	FACU
9. <u>Antennaria corymbosa</u>	—	—	10	FACW
10. <u>Vernica nutans</u>	—	—	10	FAC+
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC+)		Total % Overstory	Total % Understory <u>40</u>	
Remarks: _____				

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>Not a wetland hydrology.</u>  <u>Topographically above pit 34.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required): <u>none</u></p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC- Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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SOILS Pit 34 Village at Wolf ck 8/3/05

Map Unit Name  
(Series and Phase):

Drainage Class: mod  
well

Taxonomy (Subgroup): Pachic Haploberyalls

Field Observations  
Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	A	7.5YR 3/2	—	—	L, 2 f ga
6-13	Bw	7.5YR 3/3	—	—	L, 1 m sbk

Hydric Soil Indicators:

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol                    | <input type="checkbox"/> Concretions  |
| <input type="checkbox"/> Histic Epipedon             | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor               | <input type="checkbox"/> Organic Streaking in Sandy Soils                     |
| <input type="checkbox"/> Aquic Moisture Regime       | <input type="checkbox"/> Listed on Local Hydric Soils List                    |
| <input type="checkbox"/> Reducing Conditions         | <input type="checkbox"/> Listed on National Hydric Soils List                 |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks)                           |

Remarks: No saturation, no mottles, no oxidized root channels.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes ☒ No (Circle)  
Wetland Hydrology Present? Yes ☒ No  
Hydric Soils Present? Yes ☒ No

(Circle)  
Is this Sampling Point Within a Wetland? Yes ☒ No

Remarks:

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/13/04</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINNEAPOLIS</u>
Investigator <u>ORTHMEYER / BUSCHMANN</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>25</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Location ID <u>East of Hwy 143</u>
(If needed, explain on reverse)	<u>ALBERTA PARK - Central</u>

VEGETATION

Dominant Plant Species	% Overstory	Relative Cover	% Understory	Indicator Status
1. <u>Deschampsia cespitosa</u>	-		50	FACW
2. <u>Phlox alpinum</u>	-		20	FAC
3. <u>Epilobium halianum</u>	-		10	FAC+
4. <u>Vernonia nutans</u>	-		10	FACU [FAC+]
5. <u>Podisera pastwoodi</u>	-		5	NL
6. <u>Tussock wollii</u>	-		5	FACW-
7. _____				
8. _____				
9. _____				
10. _____				

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) Total % Overstory \_\_\_\_\_ Total % Understory 85

Remarks: \_\_\_\_\_

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (In.)</p> <p>Depth to Free Water in Pit _____ (In.)</p> <p>Depth to Saturated Soil _____ (In.)</p> <hr/> <p>Remarks: <u>No saturation now, but likely present earlier in growing season. Edge of large fen complex</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>None</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

Pit 35

Village at Wolf Ck

8/3/05

Map Unit Name  
(Series and Phase):Drainage Class: poorly  
Field Observations  
Confirm Mapped Type? Yes NoTaxonomy (Subgroup): Typic Cryaquolls

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	A	7.5YR 3/2	—	—	L 2 f gr
6-11	Bw	7.5YR 3/2 10YR 4/2	7.5YR 4/4	C, 1+2, d	L 1 m ssk
>11	Cobbly				

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks: No saturation, mottles + oxidized root channels below 6". Also some reduction in Bw to 10YR 4/2.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Circle)  
 Wetland Hydrology Present? ☒ Yes ☐ No  
 Hydric Soils Present? ☒ Yes ☐ No

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks:

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CK</u>	DATE <u>8/3/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINNEAPOLIS</u>
Investigator <u>ORTNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>26</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>Between Central</u> <u>+ N Abella Park</u>
(If needed, explain on reverse)	

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Deschampsia caespitosa</u>	_____	<u>20</u>	<u>FACW</u>
2. <u>Eleocharis palustris</u>	_____	<u>30</u>	<u>OBL</u>
3. <u>Cattail leprospira</u>	_____	<u>20</u>	<u>OBL</u>
4. <u>Pedicularis groenlandica</u>	_____	<u>10</u>	<u>OBL</u>
5. <u>Carex aquatilis</u>	_____	<u>20</u>	<u>OBL</u>
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory 100

Remarks: \_\_\_\_\_

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):          _____ Stream, Lake or Tide Gauge          _____ Aerial Photographs          _____ Other  <input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:          Depth of Surface Water _____ (In.)          Depth to Free Water in Pit _____ (In.)          Depth to Saturated Soil _____ (In.)</p> <hr/> <p>Remarks: <u>thick soil, not sat now</u> <u>but very wet, floodplain</u> <u>of creek</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>nme</u></p> <ul style="list-style-type: none"> <li>_____ Inundated</li> <li>_____ Saturated in Upper 12 inches</li> <li>_____ Water Marks</li> <li>_____ Drift Lines</li> <li>_____ Sediment Deposits</li> <li>_____ Drainage Patterns in Wetlands</li> </ul> <p>Secondary Indicators (2 or more required):</p> <ul style="list-style-type: none"> <li>_____ Oxidized Root Channels in Upper 12 inches</li> <li>_____ Water-Stained Leaves</li> <li>_____ Local Soil Survey Data</li> <li>_____ FAC Neutral Test</li> <li><input checked="" type="checkbox"/> Other (Explain in Remarks)</li> </ul>
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SOILS #36

Village at Wolf CK

8/3/05

Map Unit Name  
(Series and Phase):

Drainage Class:

Very  
poorly

Field Observations

Taxonomy (Subgroup): Typic Cryobhemists

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-18	De	10YR 2/2	—	—	organic matter

## Hydric Soil Indicators:

- ☒ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☐ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks: Not saturated but wet. Histosol, near ck.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes No (Circle)  
 Wetland Hydrology Present? ☒ Yes No  
 Hydric Soils Present? ☒ Yes No

Is this Sampling Point Within a Wetland? ☒ Yes No (Circle)

Remarks:

Approved by HQUSACE 3/92



DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CR</u>	DATE <u>8/3/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>37</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Location ID <u>near Hwy # 2471</u>
(If needed, explain on reverse)	<u>N. Alameda Park Wetlands</u>

VEGETATION

Dominant Plant Species	% Overstory	Relative Cover	% Understory	Indicator Status
1. <u>Deschampsia cespitosa</u>	-		30	FACU
2. <u>Phleum commutatum</u>	-		20	FAC
3. <u>Trisetum wolfii</u>	-		15	FACW-
4. <u>Caltha leptosepala</u>	-		5	OBL
5. <u>Erigeron coulteri</u>	-		5	FACW
6. <u>Castilleja sulphurea</u>	-		5	FACU
7. <u>Veronica nutans</u>	-		5	FACU [FACU]
8. <u>Potentilla pulcherrima</u>	-		5	NL
9. <u>Sibbaldia procumbens</u>	-		5	FACU
10. <u>Pachera cricata</u>	-		5	FACW
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)		Total % Overstory <u>1</u>	Total % Understory <u>80</u>	
Remarks:				

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>____ Stream, Lake or Tide Gauge</p> <p>____ Aerial Photographs</p> <p>____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Plt _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>No saturation now, but high groundwater is likely present each in season. Edge of complex</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>____ Inundated</p> <p>____ Saturated in Upper 12 inches</p> <p>____ Water Marks</p> <p>____ Drift Lines</p> <p>____ Sediment Deposits</p> <p>____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p>____ Water-Stained Leaves</p> <p>____ Local Soil Survey Data</p> <p>____ FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

P. 37 Village of Wolf Cr

8/3/05

Map Unit Name  
(Series and Phase):

Drainage Class:

poorly

Field Observations

Taxonomy (Subgroup):

Typic Cryagoulls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	A	7.5YR 3/3	7.5YR 4/4	C, 1+3, f	L, 2 f gr
4-10	Ab	10YR 2/2	7.5YR 4/4	C, 1+3, d	L, 2 m sbk
10-14	Bwb	10YR 4/2	7.5YR 4/4	C, 1+3, d	L, 2 m sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content In Surface Layer in Sandy Soils  
☐ Organic Streaking In Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

No saturation. Mottles + many oxidized root throughout.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes

No (Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

(Circle)

Is this Sampling Point Within a Wetland?

Yes

No

Remarks:

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/3/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTNER / BOSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? YES <input checked="" type="radio"/> NO <input type="radio"/>	Plot ID <u>38</u>
Is the site significantly disturbed (Atypical Situation)? YES <input checked="" type="radio"/> NO <input type="radio"/>	Community ID _____
Is the area a potential Problem Area? YES <input checked="" type="radio"/> NO <input type="radio"/>	Location ID <u>N. Abella Parkway</u>
(If needed, explain on reverse)	<u>near Pit 38 + 2471</u>

VEGETATION

Dominant Plant Species	% Overstory	Relative Cover % Understory	Indicator Status
1. <u>Danthonia parryi</u>		40	FACU
2. <u>Achillea lanulosa</u>		10	FACU
3. <u>Polygonum polcherrimum</u>		10	NL
4. <u>Castilleja sulphurea</u>		10	FACU
5. <u>Veronica nutans</u>		10	FACU (FACU)
6. <u>Elymus trachycarpus</u>		10	FACU
7. <u>Phlox commutata</u>		10	FAC
8. _____			
9. _____			
10. _____			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory 10

Remarks: \_\_\_\_\_

HYDROLOGY

<p>Recorded Data (Describe in Remarks):  <input type="checkbox"/> Stream, Lake or Tide Gauge  <input type="checkbox"/> Aerial Photographs  <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:          Depth of Surface Water _____ (in.)          Depth to Free Water in Pit _____ (in.)          Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>Not a wetland hydrology here. Topographically higher than # 36. No 1<sup>st</sup> or 2<sup>nd</sup> indicators</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Inundated</li> <li><input type="checkbox"/> Saturated in Upper 12 inches</li> <li><input type="checkbox"/> Water Marks</li> <li><input type="checkbox"/> Drift Lines</li> <li><input type="checkbox"/> Sediment Deposits</li> <li><input type="checkbox"/> Drainage Patterns in Wetlands</li> </ul> <p>Secondary Indicators (2 or more required): <u>none</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Oxidized Root Channels in Upper 12 inches</li> <li><input type="checkbox"/> Water-Stained Leaves</li> <li><input type="checkbox"/> Local Soil Survey Data</li> <li><input type="checkbox"/> FAC Neutral Test</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul>
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SOILS P.t 38 Village at Wolf CK, 8/3/05

Map Unit Name (Series and Phase): \_\_\_\_\_ Drainage Class: Somewhat poorly  
 Taxonomy (Subgroup): Typic Cryagnolls Field Observations \_\_\_\_\_  
 Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	A	7.5YR 2.5/3	—	—	L, 2 fgr
5-11	C	7.5YR 3/3	7.5YR 4/4	f, l, f	V. grl sl, m
11-15	2Ab	7.5YR 2.5/2	7.5YR 4/4	c, l, d	L, —

Hydric Soil Indicators:

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol                                      | <input type="checkbox"/> Concretions  |
| <input type="checkbox"/> Histic Epipedon                               | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor                                 | <input type="checkbox"/> Organic Streaking in Sandy Soils                     |
| <input type="checkbox"/> Aquic Moisture Regime                         | <input type="checkbox"/> Listed on Local Hydric Soils List                    |
| <input type="checkbox"/> Reducing Conditions                           | <input type="checkbox"/> Listed on National Hydric Soils List                 |
| <input checked="" type="checkbox"/> Gleyed or <u>Low-Chroma</u> Colors | <input type="checkbox"/> Other (Explain in Remarks)                           |

Remarks: On small knob. Buried soil is hydric soil above is not. Possible old landslide deposit. The overlying young soil high high hydraulic conductivity & low water holding capacity. Hydrology is lacking.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes <u>No</u> (Circle)	(Circle)
Wetland Hydrology Present?	Yes <u>No</u>	
Hydric Soils Present?	<u>Yes</u> No	
Is this Sampling Point Within a Wetland?		Yes <u>No</u>

Remarks:

→ May also be an alluvial deposit + then stream (N. Fork of Pass CK)

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CK</u>	DATE <u>8/3/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>OKTHVPC / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>39</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Location ID <u>N. Alberta Park</u>
(If needed, explain on reverse)	<u>meadow near #2117</u>

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Deschampsia coarctata</u>	—	30	FACW
2. <u>Phleum alpinum</u>	—	20	FAC
3. <u>Thesium waltii</u>	—	10	FACW—
4. <u>Cassileja sulphurea</u>	—	10	FACU
5. <u>Ranunculus alsimifolius</u>	—	10	FACW
6. <u>Eriogonum cicutifolium</u>	—	10	FACW
7. <u>Achillea lanulosa</u>	—	10	FACW
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FACU)	Total % Overstory <u>—</u>	Total % Understory <u>80</u>	
Remarks: _____			

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>High groundwater earlier in season combined with no rain 2300's drainage (wetlands etc)</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>None</u></p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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SOILS Pit 39 Village at Wolf Cr

8/3/05

Map Unit Name  
(Series and Phase):

Drainage Class:

poorly

Taxonomy (Subgroup):

Cumulic Cryaquolls

Field Observations

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	A1	7.5YR 3/2	7.5YR 4/4	f, l, d	L 2 f g
4-13	A2	7.5YR 3/2	7.5YR 4/4	C, l, r, d	L 1 m s b k

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

No saturation, mottle + oxidized root channels present. Hydrology - much of the hillside is seeping, however not right here. Probably seasonally high ground water from seeps + is below a large wetland, which provides some runoff.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes No (Circle)  
 Wetland Hydrology Present? ☒ Yes No  
 Hydric Soils Present? ☒ Yes No

Is this Sampling Point Within a Wetland? ☒ Yes No

Remarks:

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CK</u>	DATE <u>8/3/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHWYER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>40</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>between 700's</u> <u>+21751 Hwy</u>
(If needed, explain on reverse)	

**VEGETATION**

Dominant Plant Species	Relative Cover		Indicator Status
	% Overstory	% Understory	
1. <u>Calamagrostis canadensis</u>	-	30	<u>OBL</u>
2. <u>Phleum alpinum</u>	-	10	<u>FAC</u>
3. <u>Eryngium yuccifolium</u>	-	10	<u>FACW</u>
4. <u>Packera crocata</u>	-	10	<u>FACW</u>
5. <u>Podisleria castrifolia</u>	-	30	<u>NL</u>
6. <u>Poa alpina</u>	-	5	<u>FACU</u>
7. <u>Achillea lanulosa</u>	-	5	<u>FACW</u>
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory 60

Remarks: opening of spruce between two wetlands

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):          _____ Stream, Lake or Tide Gauge          _____ Aerial Photographs          _____ Other  <input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:          Depth of Surface Water _____ (in.)          Depth to Free Water in Pit _____ (in.)          Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>No saturation. No oxidized root channels. Unlikely a wetland hydrology as no 1° or 2° indicators.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>_____ Inundated          _____ Saturated in Upper 12 Inches          _____ Water Marks          _____ Drift Lines          _____ Sediment Deposits          _____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):          _____ Oxidized Root Channels in Upper 12 inches          _____ Water-Stained Leaves          _____ Local Soil Survey Data          _____ FAC- Neutral Test          _____ Other (Explain in Remarks)</p>
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## SOILS

Pit 40

Village at Wolf Cr

8/3/05

somewhat

Map Unit Name

(Series and Phase):

Drainage Class:

Field Observations

Taxonomy (Subgroup):

Type 2 Cryaguals

Confirm Mapped Type? Yes No

## Profile Description:

Depth

(inches)

Horizon

Matrix Color

(Munsell Moist)

Mottle Colors

(Munsell Moist)

Mottle

Abundance/Contrast

Texture, Concretions, -

Structure, etc.

0-6

A

10YR 2/2

—

—

L 2 f n

6-12

Bw

2.5YR 3/2

2.5YR 4/4

f, 1, d

L 1 m 56K

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

## Remarks:

No saturation, ON small divide between two large wetlands. Very few mottles & no oxidized root channels.

Hydrology is probably lacking.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No (Circle)

Wetland Hydrology Present?

Yes No (Circle)

Hydric Soils Present?

Yes No (Circle)

(Circle)

Is this Sampling Point Within a Wetland?

Yes No (Circle)

## Remarks:

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE P WOLF CREEK</u>	DATE <u>8/3/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>41</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>large wetland</u>
(If needed, explain on reverse)	

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	Relative Cover % Understory	Indicator Status
1. <u>Carex aquatilis</u>	—	90	OBL
2. <u>Pedicularis groenlandica</u>	—	10	OBL
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory <u>—</u>	Total % Understory <u>100</u>
Remarks: _____		

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit <u>0</u> (in.)</p> <p>Depth to Saturated Soil <u>0</u> (in.)</p> <hr/> <p>Remarks: <u>upper 5" are saturated</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC- Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

P. 41

Village at Wolf ck

8/3/05

Map Unit Name  
(Series and Phase):

Drainage Class:

very

poorly

Field Observations

Taxonomy (Subgroup):

Typic Cryohemists

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	Oe	10YR 3/3	—	—	organic material
5-16	Op	10YR 2/2	—	—	organic material

## Hydric Soil Indicators:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Histosol         | <input type="checkbox"/> Concretions  |
| <input type="checkbox"/> Histic Epipedon             | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor               | <input type="checkbox"/> Organic Staaking in Sandy Soils                      |
| <input type="checkbox"/> Aquic Moisture Regime       | <input type="checkbox"/> Listed on Local Hydric Soils List                    |
| <input type="checkbox"/> Reducing Conditions         | <input type="checkbox"/> Listed on National Hydric Soils List                 |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks)                           |

Remarks:

Histosol. Soil is saturated from 0-5".  
A 2"-3" layer is close to mineral soil.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

☒ Yes

No (Circle)

Wetland Hydrology Present?

☒ Yes

No

Hydric Soils Present?

☒ Yes

No

(Circle)

Is this Sampling Point Within a Wetland?

☒ Yes

No

Remarks:

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CR</u>	DATE <u>8/3/05</u>
Applicant/Owner <u>KWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTANBER/ BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>42</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>2700's</u>
(If needed, explain on reverse)	<u>WETLAND A</u>

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Semecio mangulus</u>	—	50	<u>OBL</u>
2. <u>Cardamine cordifolia</u>	—	20	<u>FACW+</u>
3. <u>Poa leptocoma</u>	—	10	<u>FACW</u>
4. <u>Mimulus guttatus</u>	—	10	<u>OBL</u>
5. <u>Epilobium halleanum</u>	—	5	<u>FAC+</u>
6. <u>Veronica nancy</u>	—	5	<u>FACU [FAC+]</u>
7. _____	—	—	_____
8. _____	—	—	_____
9. _____	—	—	_____
10. _____	—	—	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) Total % Overstory \_\_\_\_\_

Total % Understory 95

Remarks: \_\_\_\_\_

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):          _____ Stream, Lake or Tide Gauge          _____ Aerial Photographs          _____ Other  <input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:          Depth of Surface Water _____ (in.)          Depth to Free Water in Pit _____ (in.)          Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>There is likely high groundwater in spring here (seasonal seep),</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <ul style="list-style-type: none"> <li>_____ Inundated</li> <li>_____ Saturated in Upper 12 inches</li> <li>_____ Water Marks</li> <li>_____ Drift Lines</li> <li>_____ Sediment Deposits</li> <li>_____ Drainage Patterns in Wetlands</li> </ul> <p>Secondary Indicators (2 or more required):</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</li> <li>_____ Water-Stained Leaves</li> <li>_____ Local Soil Survey Data</li> <li>_____ FAC Neutral Test</li> <li><input checked="" type="checkbox"/> Other (Explain in Remarks)</li> </ul>
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SOILS Pit 42 Village at Wolf Cr 8/3/05

Map Unit Name  
(Series and Phase):

Drainage Class: poorly  
Field Observations  
Confirm Mapped Type? Yes No

Taxonomy (Subgroup): Typic Cryaquepts?

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2	A	10YR 2/2	—	—	L, 2 f gl
2-10	Bw/E?	7.5YR 4/2	5YR 4/4	c, 1+2, d	L, 1 m sbk

Hydric Soil Indicators:

- |   |   |
|---|---|
| <input type="checkbox"/> Histosol                               | <input type="checkbox"/> Concretions  |
| <input type="checkbox"/> Histic Epipedon                        | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor                          | <input type="checkbox"/> Organic Streaking in Sandy Soils                     |
| <input type="checkbox"/> Aquic Moisture Regime                  | <input type="checkbox"/> Listed on Local Hydric Soils List                    |
| <input type="checkbox"/> Reducing Conditions                    | <input type="checkbox"/> Listed on National Hydric Soils List                 |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks)                           |

Remarks: In forest, Mottles + oxidized root channels  
below 2". No saturation.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes No (Circle)  
Wetland Hydrology Present? ☒ Yes No  
Hydric Soils Present? ☒ Yes No

Is this Sampling Point Within a Wetland? ☒ Yes No (Circle)

Remarks:

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CR</u>	DATE <u>8/3/05</u>
Applicant/Owner <u>VNE</u>	COUNTY <u>MINER</u>
Investigator <u>ORTIMOR / BUSCHOR</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>43</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>along W-<sup>est</sup> Pass</u>
(If needed, explain on reverse)	<u>above 2623.</u>

*NTributary to PASS CR.*

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Luzula parviflora</u>	~	40	FAC
2. <u>Sarcocolla angustifolia</u>	~	30	OBL
3. <u>Ligularia amplexans</u>	~	30	FACW
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory 100

Remarks: on very steep slope above road. 60% slope or more

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>____ Stream, Lake or Tide Gauge</p> <p>____ Aerial Photographs</p> <p>____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>____ Inundated</p> <p>____ Saturated in Upper 12 inches</p> <p>____ Water Marks</p> <p>____ Drift Lines</p> <p>____ Sediment Deposits</p> <p>____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required): <u>none</u></p> <p>____ Oxidized Root Channels in Upper 12 inches</p> <p>____ Water-Stained Leaves</p> <p>____ Local Soil Survey Data</p> <p>____ FAC- Neutral Test</p> <p>____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	
<p>Remarks: <u>not a wetland hydrology - no indicators</u></p>	

SOILS P.4 43 Village at Wolf CK 8/13/05

Map Unit Name (Series and Phase):		Drainage Class: <u>Somewhat poorly</u>	
Taxonomy (Subgroup): <u>Oxyaquic Haplocryolls</u>		Field Observations Confirm Mapped Type? Yes No	

Profile Description:		Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, - Structure, etc.
Depth (inches)	Horizon				
0-6	A1	10YR 2/2	—	—	L, 2 f gr
6-12	A2	10YR 3/3	10YR 4/4	f, l, f	L, 2 f gr

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content In Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks: On steep backstop. Very few mottles in A2, no oxidized root channels. Chroma is too light, Soil is dry.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <u>Yes</u> No (Circle) Wetland Hydrology Present? Yes <u>No</u> Hydric Soils Present? Yes <u>No</u>	(Circle) Is this Sampling Point Within a Wetland? Yes <u>No</u>
Remarks:	

Approved by HQUSACE 3/92



DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CK</u>	DATE <u>8/3/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHOVER/BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>44</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>2800's</u>
(If needed, explain on reverse)	<u>NW corner, isolated wet 30</u>

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Senecio triangulans</u>	—	100	<u>OBL</u>
2. <u>Mertensia ciliata</u>	—	20	<u>OBL</u>
3. <u>Mitella pentandra</u>	—	10	<u>FACW</u>
4. <u>Geranium richardsonii</u>	—	10	<u>FACU</u>
5. _____	—	—	_____
6. _____	—	—	_____
7. _____	—	—	_____
8. _____	—	—	_____
9. _____	—	—	_____
10. _____	—	—	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FACU) \_\_\_\_\_ Total % Overstory — Total % Understory 90

Remarks: opening in spruce forest, many blown-over old logs here

HYDROLOGY

<p>Recorded Data (Describe in Remarks):  <input type="checkbox"/> Stream, Lake or Tide Gauge  <input type="checkbox"/> Aerial Photographs  <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:          Depth of Surface Water _____ (In.)          Depth to Free Water in Pit _____ (In.)          Depth to Saturated Soil _____ (In.)</p> <p>Remarks: <u>No saturation now, but high groundwater is likely present in spring</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>nme</u>  <input type="checkbox"/> Inundated  <input type="checkbox"/> Saturated in Upper 12 Inches  <input type="checkbox"/> Water Marks  <input type="checkbox"/> Drift Lines  <input type="checkbox"/> Sediment Deposits  <input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):  <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches  <input type="checkbox"/> Water-Stained Leaves  <input type="checkbox"/> Local Soil Survey Data  <input type="checkbox"/> FAC Neutral Test  <input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

P. 44

Village et Wolf CK

8/3/05

Map Unit Name

(Series and Phase):

Drainage Class:

Field Observations

Taxonomy (Subgroup):

Type Cryaquolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth

(inches)

Horizon

Matrix Color

(Munsell Moist)

Mottle Colors

(Munsell Moist)

Mottle

Abundance/Contrast

Texture, Concretions, -

Structure, etc.

0-5

A

10YR 3/2

—

—

L, 2 f g

5-7

Ab

10YR 2/1

7.5YR 4/4

f, l, p

L, 1 m platy

5-12

BW

10YR 3/2

7.5YR 4/4

f-c, l, d

L, —

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

No saturation. Few mottles + oxidized root channels below 5"

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes

No (Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

(Circle)

Is this Sampling Point Within a Wetland?

Yes

No

Remarks:

This wetland is isolated and non-jurisdictional.

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/3/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>Mineral</u>
Investigator <u>ORTHNER/BOSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>45</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>NW corner</u>
(If needed, explain on reverse)	<u>near 2915 N Abbe Park</u>

**VEGETATION**

Dominant Plant Species	Relative Cover		Indicator Status
	% Overstory	% Understory	
1. <u>Picea engelmannii</u>	<u>60</u>	<u>-</u>	<u>FACU-</u>
2. <u>Abies balsamea</u>	<u>40</u>	<u>-</u>	<u>FACU-</u>
3. <u>Mertensia ciliata</u>	<u>-</u>	<u>20</u>	<u>OBL</u>
4. <u>Geranium richardsonii</u>	<u>-</u>	<u>10</u>	<u>FACU</u>
5. <u>Arnica cordifolia</u>	<u>-</u>	<u>10</u>	<u>NL</u>
6. <u>Luzula parviflora</u>	<u>-</u>	<u>10</u>	<u>FAC</u>
7. <u>Poa alpina</u>	<u>-</u>	<u>10</u>	<u>FACU</u>
8. <u>Osmorhiza depauperata</u>	<u>-</u>	<u>10</u>	<u>NL</u>
9. <u>Potentilla pulcherrima</u>	<u>-</u>	<u>10</u>	<u>NL</u>
10. <u>Ribes mniotymum</u>	<u>-</u>	<u>20</u>	<u>NL</u>

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)

Total % Overstory 0

Total % Understory 30

Remarks:

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input checked="" type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (In.)</p> <p>Depth to Free Water in Pit _____ (In.)</p> <p>Depth to Saturated Soil _____ (In.)</p> <hr/> <p>Remarks: <u>No 1<sup>o</sup> or 2<sup>o</sup> indicators</u>  <u>Not a wetland hydrology</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required): <u>none</u></p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> <del>Local</del> Soil Survey Data</p> <p><input type="checkbox"/> FAC Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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SOILS Pit 45

Village at Wolk CK

8/3/05

Map Unit Name  
(Series and Phase):Drainage Class: SomewhatField Observations poorly

Taxonomy (Subgroup):

Oxyaquic Haplocryolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, - Structure, etc.
0-6	A1	10YR 3/2	—	—	L 2 fgr
6-12	A2	10YR 3/2	10YR 3/3	f, 1, f	L 1 m sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☐ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks: In forest, soil is not hydric, is dry,  
observed a couple faint mottles + oxidized root channels.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No (Circle)

Wetland Hydrology Present?

Yes No

Hydric Soils Present?

Yes No

(Circle)

Is this Sampling Point Within a Wetland?

Yes No

Remarks:

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CR</u>	DATE <u>8/3/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>46</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>near NW corner</u>
(If needed, explain on reverse)	<u>N. Abella Park Wetlands</u>

VEGETATION

Dominant Plant Species	Relative Cover	Indicator Status
	% Overstory	% Understory
1. <u>Senecio triangularis</u>	—	30
2. <u>Mertensia ciliata</u>	—	20
3. <u>Ribes muniticum</u>	—	20
4. <u>Oxypolis feridula</u>	—	10
5. <u>Epilobium halleanum</u>	—	10
6. <u>Poa leptocoma</u>	—	10
7. <u>Picea engelmannii</u>	100	—
8. _____	—	—
9. _____	—	—
10. _____	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory <u>—</u>	Total % Understory <u>80</u>
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Remarks: 50/20 Rule: Picea, Senecio, Mertensia, Ribes are dominants  
50% are hydrophytes → fails 50/20 rule

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water <u>—</u> (in.)</p> <p>Depth to Free Water in Pit <u>—</u> (in.)</p> <p>Depth to Saturated Soil <u>—</u> (in.)</p> <p>Remarks: <u>Not a wetland hydrology.</u>  <u>Soils not hydric. No indicators</u>  <u>of hydrology.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated <u>none</u></p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required): <u>none</u></p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC- Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

Pit 46

Village at Wolf ck

8/3/05

Map Unit Name  
(Series and Phase):Drainage Class: mod well

Taxonomy (Subgroup):

Oxyaquic Haplocryolls

Field Observations

Confirm Mapped Type? Yes No

## Profile Description:

Depth

(inches)

Horizon

Matrix Color

(Munsell Moist)

Mottle Colors

(Munsell Moist)

Mottle

Abundance/Contrast

Texture, Concretions,

Structure, etc.

0-6A10YR 2/2——L, 2 f gk6-12Bw10YR 3/3——v. cbl L

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☐ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

No mottles, no oxidized root channels,  
no saturation. Near NW corner.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No (Circle)

Wetland Hydrology Present?

Yes No

Hydric Soils Present?

Yes No

(Circle)

Is this Sampling Point Within a Wetland?

Yes No

Remarks:

FAILS 50/20 rule, but 80% of understory are wetland plants,  
1

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CR</u>	DATE <u>8/3/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>47</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>NEAR UP 1100's</u>
(If needed, explain on reverse)	
<u>N. Arbutus Park wetlands</u>	

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Sonchus oleraceus</u>	—	40	OBL
2. <u>Mertensia ciliata</u>	—	40	OBL
3. <u>Luzula parvifolia</u>	—	10	FAC
4. <u>Hieracium sphondylii</u>	—	10	FACW-
5. _____	—		
6. _____	—		
7. _____	—		
8. _____	—		
9. _____	—		
10. _____	—		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory 100

Remarks: opening in spruce-fir forest

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):          _____ Stream, Lake or Tide Gauge          _____ Aerial Photographs          _____ Other  <input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:          Depth of Surface Water _____ (in.)          Depth to Free Water in Pit _____ (in.)          Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>No saturation now but high groundwater is likely present in spring. Creek is nearby</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <ul style="list-style-type: none"> <li>_____ Inundated</li> <li>_____ Saturated in Upper 12 Inches</li> <li>_____ Water Marks</li> <li>_____ Drift Lines</li> <li>_____ Sediment Deposits</li> <li>_____ Drainage Patterns in Wetlands</li> </ul> <p>Secondary Indicators (2 or more required):</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</li> <li>_____ Water-Stained Leaves</li> <li>_____ Local Soil Survey Data</li> <li>_____ FAC Neutral Test</li> <li><input checked="" type="checkbox"/> Other (Explain in Remarks)</li> </ul>
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## SOILS

P. 47

Village at Wolf CK

8/3/05

Map Unit Name  
(Series and Phase):Drainage Class: somewhat  
Field Observations: poorly  
Confirm Mapped Type? Yes NoTaxonomy (Subgroup): Typic Cryaquolls

## Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8	A	10YR3/2	—	—	L, 2 f gr
8-12	Bw	10YR4/2	10YR4/4 7.5YR4/4	C, 1+2, d	L, 1 m 56K

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks: In forest, No saturation, mottles + oxidized root channels in Bw. Creek is nearby.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Circle)  
 Wetland Hydrology Present? ☒ Yes ☐ No  
 Hydric Soils Present? ☒ Yes ☐ No

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No (Circle)

Remarks:

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CK</u>	DATE <u>8/4/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHNER / BUSCHOR</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float:right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>48</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float:right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float:right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>below new road</u>
(If needed, explain on reverse)	<u>retaining wall; SQ #162</u> <u>Central Atholm Park wetlands</u>

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Senecio mangleonis</u>	—	75	OBL
2. <u>Mertensia ciliata</u>	—	5	OBL
3. <u>Osmorhiza depauperata</u>	—	5	NL
4. <u>Ribes montigenum</u>	—	5	NL
5. <u>Polemonium pulcherrimum</u>	—	5	NL
6. <u>Lupula parvifolia</u>	—	5	FAC
7. _____	—	—	—
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory 85

Remarks: opening in SF; next to retaining wall

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):          _____ Stream, Lake or Tide Gauge          _____ Aerial Photographs          _____ Other  <input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:          Depth of Surface Water _____ (in.)          Depth to Free Water in Pit _____ (in.)          Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>No indicators of wetland hydrology. not a wetland hydrology</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>nme</u>          _____ Inundated          _____ Saturated in Upper 12 inches          _____ Water Marks          _____ Drift Lines          _____ Sediment Deposits          _____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required): <u>nme</u>          _____ Oxidized Root Channels in Upper 12 inches          _____ Water-Stained Leaves          _____ Local Soil Survey Data          _____ FAC Neutral Test          _____ Other (Explain in Remarks)</p>
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SOILS p.t 48

Village at Walk CK

8/4/05

Map Unit Name  
(Series and Phase):

Drainage Class:

Somewhat

poorly

Field Observations

Taxonomy (Subgroup):

Oxyaquic Cryaquolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8	A	10YR2/2	—	—	L 2 f g
8-11	Bw	7.5YR 3/3	7.5YR 4/4	f, l, f	L 1 m sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☐ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

## Remarks:

No saturation. Few faint mottles in Bw horizon but chroma is too light.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No (Circle)

Wetland Hydrology Present?

Yes No

Hydric Soils Present?

Yes No

(Circle)

Is this Sampling Point Within a Wetland?

Yes No

## Remarks:

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CIL</u>	DATE <u>8/4/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHOGE/BOUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>49</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Location ID <u>W of 184</u>
(If needed, explain on reverse)	<u>Central Alberta Park Wetland</u>

**VEGETATION**

Dominant Plant Species	Relative Cover	Indicator Status
	% Overstory	% Understory
1. <u>Senecio triangulans</u>	—	80
2. <u>Bromopsis canadensis</u>	—	5
3. <u>Elymus glaucus</u>	—	5
4. <u>Cardamine cordifolia</u>	—	5
5. <u>Epilobium c. halleanum</u>	—	5
6. _____	_____	_____
7. _____	_____	_____
8. _____	_____	_____
9. _____	_____	_____
10. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory <u>—</u>	Total % Understory <u>90</u>
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Remarks: \_\_\_\_\_

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (In.)</p> <p>Depth to Free Water in Pit _____ (In.)</p> <p>Depth to Saturated Soil _____ (In.)</p> <hr/> <p>Remarks: <u>probably not a wetland hydrology as only one oxidized root channels found.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Soaked Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

P. + 49 Village at Wolf Ck

8/4/05

Map Unit Name  
(Series and Phase):Drainage Class: somewhat  
poorly  
Field Observations  
Confirm Mapped Type? Yes No

Taxonomy (Subgroup): Oxyaquic Cryaquolls

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8	A	10YR2/2	—	—	L, 2 f, gr
8-12	Bt	10YR3/3	10YR4/4	f, l, f	L, 1 m, sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☐ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks: No saturation. Observed one oxidized root channel  
+ a couple faint mottles but chroma is too light.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Circle)  
 Wetland Hydrology Present? Yes ☒ No  
 Hydric Soils Present? Yes ☒ No

Is this Sampling Point Within a Wetland? Yes ☒ No

Remarks:

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CK</u>	DATE <u>8/4/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHNER/BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></span>	Plot ID <u>50</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></span>	Community ID <u></u>
Is the area a potential Problem Area? <span style="float: right;">YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></span>	Location ID <u>20004</u>
(If needed, explain on reverse) <u>roadside ditch, DITCH WET B</u>	

**VEGETATION**

Dominant Plant Species	Relative Cover	Indicator Status
	% Overstory	% Understory
1. <u>Deschampsia caespitosa</u>	—	30
2. <u>Juncus drummondii</u>	—	30
3. <u>Ranunculus almitolius</u>	—	10
4. <u>Carex microptera</u>	—	10
5. <u>Veronica nutans</u>	—	10
6. <u>Fragaria virginiana</u>	—	10
7. <u></u>	—	—
8. <u></u>	—	—
9. <u></u>	—	—
10. <u></u>	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory <u>—</u>	Total % Understory <u>80</u>
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Remarks: Much moss present; Roadside ditch

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge <u></u></p> <p>Aerial Photographs <u></u></p> <p>Other <u></u></p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water <u>—</u> (in.)</p> <p>Depth to Free Water in Plt <u>—</u> (in.)</p> <p>Depth to Saturated Soil <u>—</u> (in.)</p> <p>Remarks: <u>This wetland receives water from wetland to west. Not all water goes thru culvert + some runs along the roadside ditch</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC- Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

Pit 50

Village at Wolf CR

8/4/05

Map Unit Name  
(Series and Phase):Drainage Class: poorly  
Field Observations  
Confirm Mapped Type? Yes NoTaxonomy (Subgroup): Typic Cryaquolls

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8	A	7.5YR 3/2	7.5YR 4/4	C, 1+2, d	L, 2 c-m s6K
> 8	large rock				

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks: In road ditch. Disturbed soil. No saturation.  
Mottles + oxidized root channels throughout.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Circle)  
 Wetland Hydrology Present? ☒ Yes ☐ No  
 Hydric Soils Present? ☒ Yes ☐ No

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No (Circle)

## Remarks:

\* checked further down the road in ditch on steeper gradient,  
 Hydric - mottles + oxidized root channels + soil is wet  
 but not saturated.  
 Wetland is non-jurisdictional, as it is a ditch constructed  
 on uplands.

Approved by HQUSACE 3/92



**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CR</u>	DATE <u>8/4/05</u>
Applicant/Owner <u>WNC</u>	COUNTY <u>MINNEAPOLIS</u>
Investigator <u>ORTINER/BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>51</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID <u>Calamagrostis</u>
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>Isolated wet 12</u>
(If needed, explain on reverse)	

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Calamagrostis canadensis</u>	—	90	OBL
2. <u>Erigeron coultteri</u>	—	5	FACW
3. <u>Geranium richardsonii</u>	—	5	FACU
4. _____	—	—	—
5. _____	—	—	—
6. _____	—	—	—
7. _____	—	—	—
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) Total % Overstory — Total % Understory 95

Remarks: \_\_\_\_\_

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):          _____ Stream, Lake or Tide Gauge          _____ Aerial Photographs          _____ Other          _____ No Recorded Data Available</p> <p>Field Observations:          Depth of Surface Water _____ (in.)          Depth to Free Water in Plt _____ (in.)          Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>wetland may have a seasonal seep just E of here.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>nme</u></p> <ul style="list-style-type: none"> <li>_____ Inundated</li> <li>_____ Saturated in Upper 12 Inches</li> <li>_____ Water Marks</li> <li>_____ Drift Lines</li> <li>_____ Sediment Deposits</li> <li>_____ Drainage Patterns in Wetlands</li> </ul> <p>Secondary Indicators (2 or more required):</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</li> <li>_____ Water-Stained Leaves</li> <li>_____ Local Soil Survey Data</li> <li>_____ FAC Neutral Test</li> <li><input checked="" type="checkbox"/> Other (Explain in Remarks)</li> </ul>
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## SOILS

pit 51 Village at Wolf ck

8/4/05

Map Unit Name  
(Series and Phase):Drainage Class: somewhat  
poorly

Field Observations

Taxonomy (Subgroup):

Typic Cryagoulls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	A	10YR 2/2	—	—	L, 2 m gr
6-12	Bw1	10YR 3/2	10YR 4/4	f, 1, d	gr/L, 2 m sbk
12-14	Bw2	10YR 4/2	10YR 4/4	c, 1+2, f	gr SL, —

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

No saturation, mottles + oxidized root channels below 6". Hydrology - probably seeping in spring.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No (Circle)

Wetland Hydrology Present?

Yes No

Hydric Soils Present?

Yes No

(Circle)

Is this Sampling Point Within a Wetland?

Yes No

Remarks:

wetland is isolated and non-jurisdictional.

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/4/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTNER / BUSCH</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>52</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID <u>beaked sl</u>
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>35005</u>
(If needed, explain on reverse)	<u>isolated wetland 8</u>

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Carex utnata</u>	—	100	OBL
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory <u>—</u>	Total % Understory <u>100</u>	
Remarks: _____			

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Plt _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>NO saturation now, but just 15' from edge of ponded water</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

Pit 52 Village at Wolf CK

8/4/05

Map Unit Name  
(Series and Phase):

Drainage Class:

poorly

Field Observations

Taxonomy (Subgroup):

Typic Cryaquepts

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	A	10YR 3/2	10YR 4/4	f, l, d	L, 2 fgr
5-18	Bw	10YR 4/2	10YR 4/4	f, l, f	L, 2 m sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

At pond, No saturation but soil is wet.  
 Few mottles + oxidized root channels,

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes

No (Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

(Circle)

Is this Sampling Point Within a Wetland?

Yes

No

Remarks:

wetland is isolated and non-jurisdictional

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>Village at NOLE CL</u>	DATE <u>8/9/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>Mineral</u>
Investigator <u>DAVID M. BUSCH</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>53</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>30004</u>
(If needed, explain on reverse)	

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	Relative Cover % Understory	Indicator Status
1. <u>Senecio triangulus</u>		70	OBL
2. <u>Arctium columbinum</u>		10	FACW
3. <u>Mertensia ciliata</u>		10	OBL
4. <u>Diglossa porteri</u>		10	FACU-
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) Total % Overstory \_\_\_\_\_ Total % Understory 90

Remarks: \_\_\_\_\_

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):  <input type="checkbox"/> Stream, Lake or Tide Gauge  <input type="checkbox"/> Aerial Photographs  <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:          Depth of Surface Water _____ (in.)          Depth to Free Water in Pit _____ (in.)          Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>NO saturation now, but high groundwater levels earlier in growing season due to high do content.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Inundated</li> <li><input type="checkbox"/> Saturated in Upper 12 inches</li> <li><input type="checkbox"/> Water Marks</li> <li><input type="checkbox"/> Drift Lines</li> <li><input type="checkbox"/> Sediment Deposits</li> <li><input type="checkbox"/> Drainage Patterns in Wetlands</li> </ul> <p>Secondary Indicators (2 or more required):</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</li> <li><input type="checkbox"/> Water-Stained Leaves</li> <li><input type="checkbox"/> Local Soil Survey Data</li> <li><input type="checkbox"/> FAC Neutral Test</li> <li><input checked="" type="checkbox"/> Other (Explain in Remarks)</li> </ul>
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## SOILS

Pt 53

Village at Wolf Ck

8/4/05

Map Unit Name

(Series and Phase):

Drainage Class:

Poorly

Field Observations

Taxonomy (Subgroup):

Cumulic Cryaquolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	A1	10YR 2/2	7.5YR 4/4	f, 1, d	L 2 f gr
5-14	A2	10YR 3/2	7.5YR 4/4	f, 1, d	L 1 m sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks: On bench above S. Fork of Pass Ck. No saturation.  
 Few mottles + oxidized root channels throughout.

Hillside probably seeps.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes

No (Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

(Circle)

Is this Sampling Point Within a Wetland?

Yes

No

Remarks:

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CR</u>	DATE <u>8/4/05</u>
Applicant/Owner <u>RNE</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHAVER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>54</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>near</u>
(If needed, explain on reverse)	<u>SLG 11A; #3798</u>

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Vernicacutans</u>	—	20	<u>FACU/FAC+</u>
2. <u>Podisla castanea</u>	—	20	<u>WL</u>
3. <u>Pedicularis gmelinoides</u>	—	20	<u>OBL</u>
4. <u>Cassileia sulphurea</u>	—	20	<u>FACU</u>
5. <u>Callitriche leucophaea</u>	—	20	<u>OBL</u>
6. _____	—	—	_____
7. _____	—	—	_____
8. _____	—	—	_____
9. _____	—	—	_____
10. _____	—	—	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory 40

Remarks: Disturbed soil; Atypical situation, veg should be discounted b/c ATYPICAL SITUATION

Also Vernicacutans should be considered a wetland plant

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>Not saturated, but very wet. Spring ~100' away + many seeps nearby</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>nme</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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SOILS Pit 54 Village et Wolf CK

8/4/05

Map Unit Name  
(Series and Phase):

Drainage Class: poorly

Taxonomy (Subgroup): Typic Cryaqueolls

Field Observations

Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8	A	7.5YR 2.5/2 7.5YR 3/4	7.5YR 4/4	c, 1+2, d	grl cl
8-12	C	10Y 4	7.5YR 4/4	m 1+2, d	vi grl SL

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors

- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Disturbed soil, Near road + lift base, C horizon is  
near saturated. Many oxidized root channels.  
A typical situation. Seeps + springs nearby

WETLAND DETERMINATION

Hydrophytic Vegetation Present?  
Wetland Hydrology Present?  
Hydric Soils Present?

Yes No (Circle)  
Yes No  
Yes No

(Circle)  
Is this Sampling Point Within a Wetland? Yes No

Remarks:

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
**(1987 COE Wetlands Delineation Manual)**

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/5/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>Mineral</u>
Investigator <u>ORTIMIER / BUSCHANK</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>55</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>near 4700</u>
(If needed, explain on reverse)	<u>TRIMUTHERY wetland C</u>

**VEGETATION**

Dominant Plant Species	Relative Cover	Indicator Status
	% Overstory	% Understory
1. <u>Sorcao triangulans</u>	—	30
2. <u>Oxypholis fendleri</u>	—	20
3. <u>Miscanthus odontoloma</u>	—	20
4. <u>Luzula parviflora</u>	—	10
5. <u>Cardamine cordifolia</u>	—	20
6. _____	—	—
7. _____	—	—
8. _____	—	—
9. _____	—	—
10. _____	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory 100

Remarks: along perennial stream, opening 1 SF

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>No saturation now.</u>  <u>Hydrology present earlier in</u>  <u>season, from creek.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

Pit 55

Village of Wolf CK

8/5/00

Map Unit Name  
(Series and Phase):

Drainage Class:

poorly

Field Observations

Taxonomy (Subgroup):

Typic Cryaquolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	A1	7.5YR2.5/2	7.5YR4/4	f, l, d	L, 2 f g
6-10	A2	7.5YR3/2	7.5YR4/4	f, l, f	cbt L
>10	very rocky				

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

## Remarks:

Along tributary of S. Fork of Pass CK.  
Very few mottles + oxidized root channels. No saturation.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	No (Circle)	(Circle)
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	No	
tributary of Is this Sampling Point Within a Wetland?			<input checked="" type="radio"/> Yes No
Remarks: On floodplain of S Fork of Pass Creek, hydrology probably present in spring. 50% obligate wetland plants. Hydric soil.			

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/5/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTNER / BUSCHERT</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Plot ID <u>56</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>5000's, wet J</u>
(If needed, explain on reverse) _____	

**VEGETATION**

Dominant Plant Species	% Overstory	Relative Cover % Understory	Indicator Status
1. <u>Veronica tenuicarpa</u>	—	40	FACW
2. <u>Achillea lanulosa</u>	—	10	FACU
3. <u>Elymus brachyradix</u>	—	30	FACU
4. <u>Polemonia pilchermanii</u>	—	5	NL
5. <u>Nocca montana</u>	—	5	NL
6. <u>Ligularia biglowii</u>	—	5	NL
7. <u>Erigeron peregrinus</u>	—	5	FACW
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory 45

Remarks: \_\_\_\_\_

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>No 1° indicators. Only 1 oxidized root channel. not a wetland hydrology</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks) _____</p>
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## SOILS

P. 56 Village at Wolf Creek

8/5/05

Map Unit Name  
(Series and Phase):Drainage Class: Somewhat  
Field Observations: poorly  
Confirm Mapped Type? Yes No

Taxonomy (Subgroup):

Aquic Haplocryolls

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-9	A	10YR 2/2	—	—	CL, 2 m ga
9-12	Bw	10YR 4/2	10YR 4/4	f, l, d	CL, 2 f sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☒ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks: A couple distinct mottles + an oxidized root channels below 10". No saturation.  
Hydrology probably lacking

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?  
 Wetland Hydrology Present?  
 Hydric Soils Present?

Yes ☒ No (Circle)  
 Yes ☒ No  
 Yes ☒ No

Is this Sampling Point Within a Wetland?

(Circle)  
 Yes ☒ No

Remarks:

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/29/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHOBIUS OVERHEER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>57</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>6000'S</u>
(If needed, explain on reverse)	<u>Isolated wetland 21</u>

**VEGETATION**

Dominant Plant Species	Relative Cover		Indicator Status
	% Overstory	% Understory	
1. <u>Erigeron cottlei</u>	—	30	<u>FACW</u>
2. <u>Senecio inangulis</u>	—	30	<u>OBL</u>
3. <u>Elymus glaucus</u>	—	20	<u>FACU</u>
4. <u>Ligularia biglora</u>	—	5	<u>NL</u>
5. <u>Ligularia porteri</u>	—	5	<u>FACU</u>
6. <u>Liriodendron latifolium</u>	—	5	<u>FAC</u>
7. <u>Veronica nitens</u>	—	5	<u>FACU</u> [FACU]
8. _____	—	—	_____
9. _____	—	—	_____
10. _____	—	—	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory 65

Remarks: opening in spruce-fir, scattered hydrophytes N to 6000'S

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (In.)</p> <p>Depth to Free Water in Pit _____ (In.)</p> <p>Depth to Saturated Soil _____ (In.)</p> <hr/> <p>Remarks: <u>No saturation now, but likely high ground water table in early spring. Assume hydr here</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

Pit 57

8/29/05

Wolf Cr. Village

Map Unit Name  
(Series and Phase):

Drainage Class:

somewhat

poorly

Field Observations

Taxonomy (Subgroup):

Typic Cinyaquolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	A	7.5YR 2.5/1	—	—	L, 2 f gr
3-14	Bw	7.5YR 3/2	7.5YR 4/4	f, 1, d	L, 2 m, s, k

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

## Remarks:

Few mottle + oxidized root channels in Bw horizon. No saturation. Hydrology ~ in swale, and

Seep about 100' away, so probably seasonal high ground water  
Soil is marginally hydric

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No (Circle)

Wetland Hydrology Present?

Yes No

Hydric Soils Present?

Yes No

(Circle)

Is this Sampling Point Within a Wetland?

Yes No

## Remarks:

wetland is isolated and hence non-jurisdictional

Approved by HQUSACE 3/92



DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/29/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTONER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>58</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>new # 6200</u>
(If needed, explain on reverse)	<u>under charter - South Mountain Park wetlands</u>

VEGETATION

Dominant Plant Species	Relative Cover	% Overstory	% Understory	Indicator Status
1. <u>Carex microper</u>			<u>50</u>	<u>FAC</u>
2. <u>Carex bella</u>			<u>20</u>	<u>FACU</u>
3. <u>Carex ebena</u>			<u>10</u>	<u>NL</u>
4. <u>Fragaria virginiana</u>			<u>10</u>	<u>FACU</u>
5. <u>Calamagrostis</u>			<u>10</u>	<u>OBL</u>
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory 60

Remarks: collected 1-3; OK

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>NO saturation now, below seep &amp; saturated soils. Run-in &amp; high groundwater assoc. E</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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Seep in earlier spring

## SOILS

Pit 58

8/29/05

Wolf Cr. Village

Map Unit Name

(Series and Phase):

Drainage Class:

somewhat  
poorly

Field Observations

Confirm Mapped Type? Yes No

Taxonomy (Subgroup): Typic Cryaquolls

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	A	7.5YR 2.5/2	—	—	L, 2 f yr
3-10	Bw	7.5YR 3/2	7.5YR 4/4	f, 1, d	L, 2 m sbl
>10"	many roots				

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Straking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

## Remarks:

Down from seep. No saturation, mottle + oxidized root channels in Bw. Under chain lift.

\* Checked for organic soils at seep — there are none.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes

No (Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

(Circle)

Is this Sampling Point Within a Wetland?

Yes

No

## Remarks:

Down gradient from seep, which has saturated soils. Hydrology probably present in spring. 10% obligate + 50% FAC wetland plants. Hydric soil.

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF C</u>	DATE <u>8/29/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINNEAPOLIS</u>
Investigator <u>ORTNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>59</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Location ID <u>near 58</u>
(If needed, explain on reverse)	<u>Isolated wetland 20</u>

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Senecio triangulans</u>	—	60	OBL
2. <u>Eragrostis ciliaris</u>	—	10	FACW
3. <u>Fragaria virginiana</u>	—	10	FACU
4. <u>Calamagrostis canadensis</u>	—	10	OBL
5. <u>Geranium richardsonii</u>	—	10	FACU
6. _____	—	—	—
7. _____	—	—	—
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC)		Total % Overstory _____	Total % Understory <u>80</u>
Remarks: <u>on edge of wetland</u>			

HYDROLOGY

<p>Recorded Data (Describe in Remarks):  <input type="checkbox"/> Stream, Lake or Tide Gauge  <input type="checkbox"/> Aerial Photographs  <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:          Depth of Surface Water _____ (in.)          Depth to Free Water in Pit _____ (in.)          Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>Not a wetland hydrology</u>  <u>No 1<sup>o</sup> or 2<sup>o</sup> indicators</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Inundated</li> <li><input type="checkbox"/> Saturated in Upper 12 inches</li> <li><input type="checkbox"/> Water Marks</li> <li><input type="checkbox"/> Drift Lines</li> <li><input type="checkbox"/> Sediment Deposits</li> <li><input type="checkbox"/> Drainage Patterns in Wetlands</li> </ul> <p>Secondary Indicators (2 or more required): <u>none</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Oxidized Root Channels in Upper 12 inches</li> <li><input type="checkbox"/> Water-Stained Leaves</li> <li><input type="checkbox"/> Local Soil Survey Data</li> <li><input type="checkbox"/> FAC Neutral Test</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul>
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## SOILS

Pit 59

8/29/05

Wolf Cr. Village

Map Unit Name  
(Series and Phase):

Drainage Class:

mod  
well

Taxonomy (Subgroup):

Typic Haplo cryolls

Field Observations

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, - Structure, etc.
0-3	A1	7.5YR2.5/2	—	—	L, 2 f g
3-12	Bw	7.5YR3/2	—	—	L, 2 m sbk

## Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors

- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

No saturation, no mottles, no oxidized root channels,

\* Moved 15' over into the dense Seneca triang. &amp; soil is hydric.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No (Circle)

Wetland Hydrology Present?

Yes No

Hydric Soils Present?

Yes No

(Circle)

Is this Sampling Point Within a Wetland?

Yes No

Remarks:

\* Check for organic soils is spongy seep below.  
 Thickest was 7" of organics — no histic  
 epipedons present in seep, → under chair lift.

Approved by HQUSACE 3/92

down from pit 60.

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/29/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHMAN / BUSCHOR</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Plot ID <u>60</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>next to chairlift</u>
(If needed, explain on reverse)	<u>above 6100's - below 6200's</u>

*near isolated wetland 2c*

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Carex microstachya</u>	—	50	FAC
2. <u>Carex bella</u>	—	15	FACU
3. <u>Poa cephalotoma</u>	—	15	FACW
4. <u>Epilobium cf. halimifolium</u>	—	5	FAC+
5. <u>Luzula parviflora</u>	—	5	FAC
6. <u>Sibbaldia procumbens</u>	—	5	FACU
7. <u>Juncus drummondii</u>	—	5	FAC
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) Total % Overstory \_\_\_\_\_ Total % Understory 80

Remarks: looks slightly disturbed; but soils are normal

HYDROLOGY

<p>Recorded Data (Describe in Remarks):  <input type="checkbox"/> Stream, Lake or Tide Gauge  <input type="checkbox"/> Aerial Photographs  <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available         </p> <p>Field Observations:          Depth of Surface Water _____ (in.)          Depth to Free Water in Pit _____ (in.)          Depth to Saturated Soil _____ (in.)       </p> <p>Remarks: <u>NO 1<sup>st</sup> indicators, only 1<sup>st</sup> indicator</u>  <u>NOT A WETLAND HYDROLOGY</u> </p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Inundated</li> <li><input type="checkbox"/> Saturated in Upper 12 inches</li> <li><input type="checkbox"/> Water Marks</li> <li><input type="checkbox"/> Drift Lines</li> <li><input type="checkbox"/> Sediment Deposits</li> <li><input type="checkbox"/> Drainage Patterns in Wetlands</li> </ul> <p>Secondary Indicators (2 or more required): <u>none</u></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</li> <li><input type="checkbox"/> Water-Stained Leaves</li> <li><input type="checkbox"/> Local Soil Survey Data</li> <li><input type="checkbox"/> FAC- Neutral Test</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul>
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## SOILS

Pit 60

8/29/05

Wolf Cr. Village

Map Unit Name  
(Series and Phase):Drainage Class: Somewhat  
Field Observations: poorly  
Confirm Mapped Type? Yes No

Taxonomy (Subgroup):

Oxyaquic Haplocryolls

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	O <sub>i</sub>	10YR 2/2	—	—	organics - 1 mbs wood chips
3-7	A <sub>2</sub>	7.5YR 3/2	—	—	1 m platy
7-12	B <sub>w</sub>	7.5YR 3/3	7.5YR 4/4	f, l, f	2 m s6k

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☐ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

One faint oxidized root channel & some mottle in B<sub>w</sub> horizon but chroma is too light.

Under chain lift.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No (Circle)

Wetland Hydrology Present?

Yes No

Hydric Soils Present?

Yes No

(Circle)

Is this Sampling Point Within a Wetland?

Yes No

Remarks:

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CR</u>	DATE <u>8/29/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINOTIA</u>
Investigator <u>ORTNER/BOSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>61</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Location ID <u>near 6183</u>
(If needed, explain on reverse)	<u>Isolated wetland 20</u>

VEGETATION

Dominant Plant Species	% Overstory	% Understory	Indicator Status
1. <u>Picea engelmannii</u>	100	—	FACU
2. <u>Erigeron culleri</u>	—	50	FACW
3. <u>Mitella pentandra</u>	—	10	FACW
4. <u>Oxypolis fendleri</u>	—	10	OBL
5. <u>Poa leptocoma</u>	—	10	FACW
6. <u>Osmorhiza depauperata</u>	—	10	NL
7. <u>Sibbaldia procumbens</u>	—	10	FACU
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory 80

Remarks: not included by orange flags

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>No saturation now, but likely a high groundwater in early spring, downslope &amp; seeps</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

Pit 61

8/29/05

Wolf CK Village

Map Unit Name  
(Series and Phase):Drainage Class: Somewhat  
Field Observations: poorlyTaxonomy (Subgroup): Typic Cryaquolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	A1	7.5YR 2.5/2	—	—	L 2 f g <sub>1</sub>
3-6	A2	7.5YR 3/2	7.5YR 4/4	f. l. d	L 2 m 56K
6-12	Bw	7.5YR 3/2 7.5YR 3/3	7.5YR 4/4	f. l. d	L 2 c 56K

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☒ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks: Marginally hydric. A couple distinct mottles + one oxidized root channels. No saturation.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Circle)  
 Wetland Hydrology Present? ☒ Yes ☐ No  
 Hydric Soils Present? ☒ Yes ☐ No

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks: Wetland hydrology probably present in spring/early summer. 10% Obligate wetland plants, 70% FACW plants. Hydric soil.

Approved by HQUACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT NOBLE</u>	DATE <u>8/29/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHOBER / BUSCH</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>62</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Location ID <u>near 6169</u>
(If needed, explain on reverse)	

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	Relative Cover % Understory	Indicator Status
1. <u>Veratrum tenuipetalum</u>	—	10	FACW
2. <u>Deschampsia caespitosa</u>	—	10	FACW
3. <u>Genhamsia thermals</u>	—	10	OBL
4. <u>Antennaria canadensis</u>	—	10	FACW
5. <u>Elymus multicaulis</u>	—	10	FACU
6. <u>Bistorta bistortoides</u>	—	10	FAC+
7. <u>Pachira crocata</u>	—	10	FACW
8. <u>Potentilla pucherrima</u>	—	10	NL
9. <u>Phlox commutata</u>	—	10	FAC
10. <u>Carex ebena</u>	—	10	NL
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC+)		Total % Overstory _____	Total % Understory <u>70</u>
Remarks: <u>very diverse area</u>			

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input checked="" type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>No saturation near, no 1<sup>st</sup> or 2<sup>nd</sup> indicators.</u> <u>NOT A wetland hydrology</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required): <u>none</u></p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

P. 62

8/29/05

Wolf Ck. Village

Map Unit Name  
(Series and Phase):

Drainage Class:

mod  
well

Taxonomy (Subgroup):

Typic Haplo cryolls

Field Observations

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	A1	7.5YR 2.5/2	—	—	L, 2 f gr
6-12	A2	7.5YR 3/2	—	—	L, 2 m sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☐ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

No saturation, no mottles, no oxidized root channels,

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No (Circle)

Wetland Hydrology Present?

Yes No

Hydric Soils Present?

Yes No

(Circle)

Is this Sampling Point Within a Wetland?

Yes No

Remarks:

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CK</u>	DATE <u>8/29/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINORAL</u>
Investigator <u>ORTIMER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>63</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Location ID <u>near 6169</u>
(If needed, explain on reverse)	<u>PIT 62</u>

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	Relative Cover % Understory	Indicator Status
1. <u>Calamagrostis canadensis</u>	—	80	OBL
2. <u>Veratrum tenuipetalum</u>	—	10	FACW
3. <u>Pachira crocata</u>	—	10	FACW
4. _____	—	—	
5. _____	—	—	
6. _____	—	—	
7. _____	—	—	
8. _____	—	—	
9. _____	—	—	
10. _____	—	—	

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC)	Total % Overstory _____	Total % Understory <u>100</u>	
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Remarks: Centropogon thermalis near here

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Plt _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>NO saturation now, but a seep is nearby. we assume a wet hydr. is present in spring</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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P.t 63

8/29/05

Wolf CK. Village

Somewhat

Map Unit Name

(Series and Phase):

Drainage Class:

poorly

Field Observations

Taxonomy (Subgroup):

Typic Cryaquolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, - Structure, etc.
0-6	A1	7.5YR 2.5/2	—	—	L, 2 f gr
6-12	A2	7.5YR 3/2	7.5YR 4/4	f, l, d	1, 2 m sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

## Remarks:

No saturation. Few mottles + oxidized root channels. Hydrology — from nearby seep in spring time + snow melt.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes

No (Circle)

(Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

Is this Sampling Point Within a Wetland?

Yes

No

## Remarks:

No saturation now but seep is nearby. Wetland hydrology probably present in spring. 80% obligate wetland plants, 20% FACW plants. Hydric soil.

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CR</u>	DATE <u>8/30/05</u>
Applicant/Owner <u>WNC</u>	COUNTY <u>MINNEAPOLIS</u>
Investigator <u>ORTIMOR / WISCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>64</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Location ID <u>near 6345</u>
(If needed, explain on reverse)	
<u>South Alberta Park Wetlands</u>	

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Calamagrostis canadensis</u>	—	80	OBL
2. <u>Deschampsia caespitosa</u>	—	10	FACW
3. <u>Onosmodium septentrionale</u>	—	5	FACW
4. <u>Elymus trachycarpus</u>	—	5	FACU
5. _____	—	—	—
6. _____	—	—	—
7. _____	—	—	—
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)		Total % Overstory _____	Total % Understory <u>95</u>
Remarks: _____			

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>No saturation now, but very likely in early spring from nearby seeps.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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Flag → P.t 64 8/30/05 Wolf CK. Village

Map Unit Name (Series and Phase): \_\_\_\_\_ Drainage Class: poorly  
 Taxonomy (Subgroup): Typic Cryaquolls Field Observations Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	A	10YR 2/2	—	—	L, 2 f g
5-8	Bw1	10YR 3/2	7.5YR 4/4	C 1+2, d	L, 2 f platy
8-11	Bw2	10YR 4/2	7.5YR 4/4	C 1+2, d	v. cbl L,
>11	very	cobbly	—	—	—

Hydric Soil Indicators:

- |   |   |
|---|---|
| <input type="checkbox"/> Histosol                               | <input type="checkbox"/> Concretions  |
| <input type="checkbox"/> Histic Epipedon                        | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor                          | <input type="checkbox"/> Organic Streaking in Sandy Soils                     |
| <input type="checkbox"/> Aquic Moisture Regime                  | <input type="checkbox"/> Listed on Local Hydric Soils List                    |
| <input type="checkbox"/> Reducing Conditions                    | <input type="checkbox"/> Listed on National Hydric Soils List                 |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks)                           |

Remarks: No saturation. Common mottle + oxidized root channels in Bw horizon.  
 Hydrology - Seasonal high water table from upgradient seeps in spring, + some runoff - small drainage close by.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes No (Circle)	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes No
Wetland Hydrology Present? <input checked="" type="radio"/> Yes No	
Hydric Soils Present? <input checked="" type="radio"/> Yes No	

Remarks: Near flag 6345.

Approved by HQUSACE 3/92



**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CR</u>	DATE <u>8/30/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>05</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Location ID <u>near 6392 H&amp;S</u>
(If needed, explain on reverse)	<u>E part of S. Althea Park Wet</u>

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u><i>Seneccio trianglans</i></u>	—	20	OBL
2. <u><i>Callamagrostis canad</i></u>	—	30	OBL
3. <u><i>Eriogon coultteri</i></u>	—	10	FACW
4. <u><i>Fragaria virginiana</i></u>	—	5	FACU
5. <u><i>Geranium richardsonii</i></u>	—	5	FACU
6. <u><i>Barnadesia canadensis</i></u>	—	10	FACU
7. <u><i>Ligularia bigloveli</i></u>	—	5	NL
8. <u><i>Lysichiton parviflor</i></u>	—	5	FAC
9. _____	—	—	—
10. _____	—	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC)	Total % Overstory _____	Total % Understory <u>75</u>	
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Remarks: \_\_\_\_\_

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water <u>—</u> (in.)</p> <p>Depth to Free Water in Plt <u>—</u> (in.)</p> <p>Depth to Saturated Soil <u>—</u> (in.)</p> <p>Remarks: <u>Seep nearby. No saturation now. Likely present in early spring</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>nme</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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Pit 65

8/30/05

Wolf Cr. Village

Map Unit Name

(Series and Phase):

Drainage Class:

Field Observations

Taxonomy (Subgroup):

Typic Cryaquolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	A	7.5YR 2.5/2	—	—	L, 2 f gr
5-14	Bw	7.5YR 3/2	7.5YR 4/6	C, 1+2 d	L, 2 m sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks: Soil is wet but not saturated. Common mottles + oxidized root channels in Bw horizon. Seepy hillside.

Near flags 6392 + 6509

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

(Yes) No (Circle)

Wetland Hydrology Present?

(Yes) No

Hydric Soils Present?

(Yes) No

(Circle)

Is this Sampling Point Within a Wetland?

(Yes) No

Remarks:

Pit is on small ridge between two seeps.

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/30/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINNEAPOLIS</u>
Investigator <u>ORTHOBER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>66</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>IN 6700'S</u>
(If needed, explain on reverse)	<u>up from # 6600'S</u> <u>wetland M</u>

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Eriogonum cicuter</u>	—	30	FACW
2. <u>Deschampsia caespitosa</u>	—	20	FACW
3. <u>Deschampsia</u>	—	20	FACW
4. <u>Phleum ammatum</u>	—	20	FAC
5. <u>Oenothera biennis</u>	—	10	FAC
6. _____	—	—	—
7. _____	—	—	—
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC)	Total % Overstory _____	Total % Understory <u>100</u>
Remarks: <u>MOSS also present</u>		

HYDROLOGY

<p>Recorded Data (Describe in Remarks):  <input type="checkbox"/> Stream, Lake or Tide Gauge  <input type="checkbox"/> Aerial Photographs  <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:          Depth of Surface Water _____ (in.)          Depth to Free Water in Pit _____ (in.)          Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>NO saturation now, but likely high groundwater is present in spring</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u>  <input type="checkbox"/> Inundated  <input type="checkbox"/> Saturated in Upper 12 inches  <input type="checkbox"/> Water Marks  <input type="checkbox"/> Drift Lines  <input type="checkbox"/> Sediment Deposits  <input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):  <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches  <input type="checkbox"/> Water-Stained Leaves  <input type="checkbox"/> Local Soil Survey Data  <input type="checkbox"/> FAC Neutral Test  <input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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Pit 66

8/30/05

Wolf CK Village

Map Unit Name  
(Series and Phase):

Drainage Class:

Somewhat

Field Observations

poorly

Taxonomy (Subgroup):

Aquic Haplo cryolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	A1	7.5YR 2.5/2	—	—	L, 2 f gr
3-9	A2	7.5YR 3/2	7.5YR 4/6	C, 1, d	L, 2 m sbk
9-14	Bw	7.5YR 3/3	—	—	SL, 1 m sbk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

## Remarks:

No saturation, common mottles & oxidized root channels in A2 horizon. Hydrology - wet in spring

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No (Circle)

Wetland Hydrology Present?

Yes No

Hydric Soils Present?

Yes No

(Circle)

Is this Sampling Point Within a Wetland?

Yes No

## Remarks:

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF C</u>	DATE <u>8/30/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORRINE R. BOUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>67</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>M 6700's</u>
(If needed, explain on reverse)	
wetland M	

VEGETATION

Dominant Plant Species	Relative Cover	% Overstory	% Understory	Indicator Status
1. <u>Calamagrostis canadensis</u>	—	—	<u>70</u>	<u>OBL</u>
2. <u>Phleum commutatum</u>	—	—	<u>10</u>	<u>FAC</u>
3. <u>Eragrostis ciliaris</u>	—	—	<u>10</u>	<u>FACW</u>
4. <u>Gentianopsis thermalis</u>	—	—	<u>5</u>	<u>OBL</u>
5. <u>Epilobium hibernicum</u>	—	—	<u>5</u>	<u>FAC+</u>
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC)		Total % Overstory _____	Total % Understory <u>100</u>	
Remarks: _____				

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>____ Stream, Lake or Tide Gauge</p> <p>____ Aerial Photographs</p> <p>____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water <u>—</u> (in.)</p> <p>Depth to Free Water in Pit <u>—</u> (in.)</p> <p>Depth to Saturated Soil <u>—</u> (in.)</p> <hr/> <p>Remarks: <u>No saturation noted. Assumed wetland hydrology, but may be questionable.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>____ Inundated</p> <p>____ Saturated in Upper 12 inches</p> <p>____ Water Marks</p> <p>____ Drift Lines</p> <p>____ Sediment Deposits</p> <p>____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p>____ Water-Stained Leaves</p> <p>____ Local Soil Survey Data</p> <p>____ FAC-Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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Pit 67

8/30/05

Wolf Ck. Village

somewhat

Map Unit Name

(Series and Phase):

Drainage Class:

Field Observations

Confirm Mapped Type? Yes No

Taxonomy (Subgroup):

Typic Cryaquolls

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	A1	2.5YR 2.5/2	—	—	L, 2 f g
4-14	A2	7.5YR 3/2	7.5YR 4/6	f <sup>1</sup> 1/2 d C <sub>1</sub> 1/2 d	L, 2 m platy → 56k

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

No saturation. Few mottles from 10-12",  
common mottles + oxidized root channels 12-14"

Seeping up gradient at break in slope.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes

No (Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

(Circle)

Is this Sampling Point Within a Wetland?

Yes

No

Remarks:

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CR</u>	DATE <u>8/30/05</u>
Applicant/Owner _____	COUNTY <u>MINERAL</u>
Investigator <u>ORTNER / BOSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>68</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>near 6405</u>
(If needed, explain on reverse)	<u>outside wet. bndry</u>

tributary wetland

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Calamagrostis canadensis</u>	—	30	OBL
2. <u>Carex bella</u>	—	20	FACV
3. <u>Engelm couleri</u>	—	15	FACW
4. <u>Deschampsia cespitosa</u>	—	10	FACW
5. <u>Agropyron curvicaule</u>	—	5	FACU
6. <u>Gentianopsis thymifolia</u>	—	5	OBL
7. <u>Taraxacum officinale</u>	—	10	FACW
8. <u>Vernicia nutans</u>	—	5	FACU [FAC+]
9. _____	—	—	—
10. _____	—	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) Total % Overstory \_\_\_\_\_ Total % Understory 70

Remarks: collected #2. OK

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>No saturation, no indicators</u> <u>∴ NOT a wetland hydrology</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required): <u>none</u></p> <p>_____ Oxidized Root Channels in Upper 12 inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC- Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Pit 68

8/30/05

Wolf CK Village

Map Unit Name

(Series and Phase):

Drainage Class:

mod  
well

Taxonomy (Subgroup):

Typic Argicryolls

Field Observations

Confirm Mapped Type? Yes No

## Profile Description:

Depth

(inches)

Horizon

Matrix Color

(Munsell Moist)

Mottle Colors

(Munsell Moist)

Mottle

Abundance/Contrast

Texture, Concretions, -  
Structure, etc.

0-9

A

7.5YR 2.5/2

—

—

L 2 fgr

9-14

Bt

7.5YR 3/2

—

—

CL/L 2 m stk

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☐ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

No saturation, no mottles, no oxidized root channels.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes

No (Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

(Circle)

Is this Sampling Point Within a Wetland?

Yes

No

Remarks:

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CR</u>	DATE <u>8/30/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINNEAPOLIS</u>
Investigator <u>DETHMER/ROSCHE</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>69</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? (If needed, explain on reverse)	Location ID <u>near # 6405</u> <u>inside wetl. boundary</u>

TRIBUTARY WETLAND 9

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	Relative Cover % Understory	Indicator Status
1. <u>Deschampsia cespitosa</u>	—	20	FACW
2. <u>Calamagrostis canadensis</u>	—	20	OBL
3. <u>Juncus drummondii</u>	—	10	FAC
4. <u>Phragmites australis</u>	—	10	FACW
5. <u>Arnica montana</u>	—	10	FAC
6. <u>Calla lutea</u>	—	5	OBL
7. <u>Senecio triangulatus</u>	—	5	OBL
8. <u>Veratrum virgatum</u>	—	5	FACW
9. <u>Achillea lanulosa</u>	—	5	FACW
10. <u>Trichostema</u>	—	10	FACW

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC)	Total % Overstory	Total % Understory	95
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Remarks: \_\_\_\_\_

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>____ Stream, Lake or Tide Gauge</p> <p>____ Aerial Photographs</p> <p>____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>NO saturation now but likely seeping in spring.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>____ Inundated</p> <p>____ Saturated in Upper 12 inches</p> <p>____ Water Marks</p> <p>____ Drift Lines</p> <p>____ Sediment Deposits</p> <p>____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p>____ Water-Stained Leaves</p> <p>____ Local Soil Survey Data</p> <p>____ FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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Pit 69

8/30/05

Wolf Cr. Village

Map Unit Name  
(Series and Phase):

Drainage Class: somewhat

Field Observations: poorly

Taxonomy (Subgroup):

Typic Cryaquolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8	A	7.5YR 2.5/2	—	—	L, 2 f g
8-14	Bt	7.5YR 3/2	7.5YR 4/6	f, 1, d c, 1, d	CL, 2 f platy

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

## Remarks:

Few mottles & oxidized root channels in Bt. In places  
 No saturation. Hydrology - probably seeping in  
 the spring. mottles are common.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes

No (Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

(Circle)

Is this Sampling Point Within a Wetland?

Yes

No

## Remarks:

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>8/20/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINNEAPOLIS</u>
Investigator <u>ORTON &amp; PUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float:right">YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></span>	Plot ID <u>70</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float:right">YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float:right">YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></span>	Location ID <u>new UPL 2019</u> <u>(outside wet. bndry)</u>
(If needed, explain on reverse)	

*South of Alameda Park Wetlands*

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Calamagrostis canadensis</u>	—	70	OBL
2. <u>Eriogonum ciliatum</u>	—	10	FACW
3. <u>Elymus trachycarpus</u>	—	5	FACU
4. <u>Ligularia borealis</u>	—	5	NL
5. <u>Fragaria virginiana</u>	—	5	FACU
6. <u>Veratrum knipetatum</u>	—	5	FACW
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC)	Total % Overstory _____	Total % Understory <u>85</u>	
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Remarks: \_\_\_\_\_

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):  <input type="checkbox"/> Stream, Lake or Tide Gauge  <input type="checkbox"/> Aerial Photographs  <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:          Depth of Surface Water _____ (in.)          Depth to Free Water in Pit _____ (in.)          Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>No 1° or 2° indicators</u>  <u>∴ NOT a wetland hydrology</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Inundated</li> <li><input type="checkbox"/> Saturated in Upper 12 inches</li> <li><input type="checkbox"/> Water Marks</li> <li><input type="checkbox"/> Drift Lines</li> <li><input type="checkbox"/> Sediment Deposits</li> <li><input type="checkbox"/> Drainage Patterns in Wetlands</li> </ul> <p>Secondary Indicators (2 or more required): <u>none</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Oxidized Root Channels in Upper 12 inches</li> <li><input type="checkbox"/> Water-Stained Leaves</li> <li><input type="checkbox"/> Local Soil Survey Data</li> <li><input type="checkbox"/> FAC-Neutral Test</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul>
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Pit 70 8/30/55 Wolf Creek Village

Map Unit Name  
(Series and Phase):

Drainage Class: mod well  
Field Observations  
Confirm Mapped Type? Yes No

Taxonomy (Subgroup): Typic Haplocryolls

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8	A	7.5YR 2.5/2	—	—	
8-14	B <sub>1</sub> /A <sub>2</sub>	7.5YR 3/2	—	—	L <sub>1</sub> 2 m sbk

Hydric Soil Indicators:

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol                    | <input type="checkbox"/> Concretions  |
| <input type="checkbox"/> Histic Epipedon             | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor               | <input type="checkbox"/> Organic Streaking in Sandy Soils                     |
| <input type="checkbox"/> Aquic Moisture Regime       | <input type="checkbox"/> Listed on Local Hydric Soils List                    |
| <input type="checkbox"/> Reducing Conditions         | <input type="checkbox"/> Listed on National Hydric Soils List                 |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks)                           |

Remarks: No saturation, no mottle, no oxidized root channels.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)	Is this Sampling Point Within a Wetland?	Yes <input checked="" type="radio"/> No <input type="radio"/> (Circle)
Wetland Hydrology Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>		
Hydric Soils Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>		
Remarks:			

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT ROCK CREEK</u>	DATE <u>8/30/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>MINNEAPOLIS</u>
Investigator <u>ORTNER / BUSCHER</u>	STATE <u>ID</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>71</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Location ID <u>NEAR UP 2019</u> <u>(inside boundary)</u>
(If needed, explain on reverse)	

SOUTH ALBERTA PARK WETLANDS

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	Relative Cover % Understory	Indicator Status
1. <u>Deschampsia cespitosa</u>	—	30	FACW
2. <u>Poa annua</u>	—	20	FACW
3. <u>Veratrum kenipetalum</u>	—	10	FACW
4. <u>Arnica montana</u>	—	10	FAC
5. <u>Geranium robertianum</u>	—	10	OBL
6. <u>Calluna vulgaris canad.</u>	—	10	OBL
7. <u>Engelmannia</u>	—	10	FACW
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory 100

Remarks: meadow

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>no saturation now, but near drainage swale + part of the Alberta Park fen. Likely a seasonal or a high groundwater source.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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Pit 71 8/30/55 Wolf ck Village

Map Unit Name

(Series and Phase):

Drainage Class:

Field Observations

Confirm Mapped Type? Yes No

Taxonomy (Subgroup):

Argi Cryaquolls

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	A	7.5YR 2.5/2	—	—	L, 2 f gr
6-9	AB	10YR 3/2	7.5YR 4/4	f, 1, d	L, 2 m s6k
9-14	Bt	2.5Y 4/2	7.5YR 4/4	C, 1, d	CL, 2 m s6k cobble

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors

- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

No saturation, common mottle + oxidized root channels in Bt. Hydrology - seeps,

just down from pit 70.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?

(Yes) No (Circle)

Wetland Hydrology Present?

(Yes) No

Hydric Soils Present?

(Yes) No

(Circle)

Is this Sampling Point Within a Wetland?

(Yes) No

Remarks:

Approved by HQUSACE 3/92



**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CR.</u>	DATE <u>8/31/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINNEAPOLIS</u>
Investigator <u>BRETHERIDGE/OWSHEE</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>72</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Location ID <u>7400'S</u>
(If needed, explain on reverse)	<u>Isolated wetland 18</u>

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Picea engelmannii</u>	<u>100</u>	<u>—</u>	<u>FACW</u>
2. <u>Calamagrostis canad.</u>	<u>—</u>	<u>40</u>	<u>OBL</u>
3. <u>Caltha leptosepala</u>	<u>—</u>	<u>40</u>	<u>OBL</u>
4. <u>Carex illinoensis</u>	<u>—</u>	<u>10</u>	<u>OBL</u>
5. <u>Ajroslis exarata</u>	<u>—</u>	<u>10</u>	<u>FACW</u>
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC)	Total % Overstory _____	Total % Understory <u>100</u>
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Remarks: collected #5

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit <u>0</u> (in.)</p> <p>Depth to Saturated Soil <u>0</u> (in.)</p> <hr/> <p>Remarks: <u>Saturated to surface</u>  <u>Wet hydrology present.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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P: 72 8/31/05 Wolf Creek Village

Map Unit Name  
(Series and Phase):

Drainage Class: Very

Field Observations possibly

Taxonomy (Subgroup): Typic Cryaquepts

Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	Oe	10YR2/1	—	—	organic material
5-12	A	10YR4/2	10YR4/4	F, L, d	Li —

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors

- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: At small seep. Saturated 0-9". Few mottles  
+ oxidized root channels in A horizon.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes No (Circle)  
Wetland Hydrology Present? Yes No  
Hydric Soils Present? Yes No

Is this Sampling Point Within a Wetland? Yes No (Circle)

Remarks: Saturated soil, 90% obligate wetland plants,  
Hydric soil.  
Wetland is isolated and non-jurisdictional.

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT ADLER CK</u>	DATE <u>8/31/05</u>
Applicant/Owner <u>NWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTIMER / MASCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>73</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input checked="" type="radio"/> NO</span>	Location ID <u>77004</u>
(If needed, explain on reverse)	<u>Isolated wetland 16</u>

VEGETATION

Dominant Plant Species	Relative Cover	% Overstory	% Understory	Indicator Status
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory \_\_\_\_\_

Remarks: veg too young to accurately I.D.

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>Disturbed soil, but mottles present. likely a wetland before disturbance</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC- Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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Pit 73

8/31/05

Wolf Cr. Village

Map Unit Name  
(Series and Phase):

Drainage Class:

Somewhat

Field Observations

poorly

Taxonomy (Subgroup):

Typic Cryagvolls

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, - Structure, etc.
0-13	Bw	7.5YR 2.5/2 7.5YR 3/2	7.5YR 4/4	C <sub>1</sub> 1+2, d	CL, 2 m sbr

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

## Remarks:

Disturbed soil, appears that the upper 6"-1' has been removed & the upper B has been worked.

Soil is wet but not saturated. Seep below & above pit.  
Mottles & oxidized root channels.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

(Yes) No (Circle)

Wetland Hydrology Present?

(Yes) No

Hydric Soils Present?

(Yes) No

Is this Sampling Point Within a Wetland?

(Circle)

(Yes) No

## Remarks:

This area was probably wetland before disturbance & not created by the disturbance.  
\* checked soil at bottom next to road. 0-9" gel fill, upper 2" saturated from runoff from nearby

Approved by HQUSACE 3/92

seep. 9-12" CL possibly original subsoil with mottles & oxidized channels - was probably a wetland before disturbance. LA-146a

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CR</u>	DATE <u>8/31/05</u>
Applicant/Owner <u>NWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTIMER / BISCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>74</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Location ID <u>82005</u>
(If needed, explain on reverse)	<u>Isolated wetland 22</u>

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Senecio triangulens</u>	—	50	OBL
2. <u>Mertensia ciliata</u>	—	10	OBL
3. <u>Caltha leptosepala</u>	—	10	OBL
4. <u>Poa leptocoma</u>	—	10	FACW
5. <u>Luzula parviflora</u>	—	10	FAC
6. <u>Oxygallis tendleri</u>	—	10	OBL
7. _____	—	—	—
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC) \_\_\_\_\_ Total % Overstory \_\_\_\_\_ Total % Understory 100

Remarks: \_\_\_\_\_

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <p>Remarks: <u>likely a seasonal high ground water table here as seeps are down gradient</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input checked="" type="checkbox"/> FAC- Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
--	---

Pit 74 8/31/05 Wolf CK Village

Map Unit Name  
(Series and Phase):

Drainage Class: somewhat  
poorly  
Field Observations  
Confirm Mapped Type? Yes No

Taxonomy (Subgroup): Typic Cryaquolls

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, - Structure, etc.
0-4	A	7.5YR2.5/2	—	—	L 2 f ga
4-14	A/Bw	7.5YR3/2	7.5YR4/4	f, l, d	L 2 m sbk

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors

- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: No saturation, few mottle + oxidized root channels. Hydrology - seasonal high ground water - seeps down gradient.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes No (Circle)  
Wetland Hydrology Present? Yes No  
Hydric Soils Present? Yes No

(Circle)  
Is this Sampling Point Within a Wetland? Yes No

Remarks: This wetland is isolated and non-jurisdictional.

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CK</u>	DATE <u>8/31/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTNER/BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></span>	Plot ID <u>75</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="checkbox"/> NO <input checked="" type="checkbox"/></span>	Location ID <u>old road bed</u>
(If needed, explain on reverse)	<u>abre 6221 16222</u>

*South Atkella Park Wetlands*

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	% Understory	Indicator Status
1. <u>Poa leptocoma</u>	—	60	<u>FACW</u>
2. <u>Carex bella</u>	—	10	<u>FACU</u>
3. <u>Epilobium &amp; Hillebrandium</u>	—	10	<u>FAC+</u>
4. <u>Carex ebenea</u>	—	10	<u>NL</u>
5. <u>Carex microplera</u>	—	10	<u>FAC</u>
6. _____	—	—	—
7. _____	—	—	—
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) Total % Overstory \_\_\_\_\_ Total % Understory 80

Remarks: \_\_\_\_\_

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>____ Stream, Lake or Tide Gauge</p> <p>____ Aerial Photographs</p> <p>____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>High groundwater in spring, 1 m in from wetland above (2)</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>____ Inundated</p> <p>____ Saturated in Upper 12 inches</p> <p>____ Water Marks</p> <p>____ Drift Lines</p> <p>____ Sediment Deposits</p> <p>____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p>____ Water-Stained Leaves</p> <p>____ Local Soil Survey Data</p> <p>____ FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

P. 75

8/31/05

Wolf Cr. Village

Map Unit Name  
(Series and Phase):Drainage Class: poorly  
Field Observations  
Confirm Mapped Type? Yes NoTaxonomy (Subgroup): Typic Cryaquolls

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-12	Bw	10YR 3/2	7.5YR 4/4	C, 1+2, d	1/2 gal CL/L

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks: Disturbed soil - on old road. Surface layer has been removed. No saturation, mottles + oxidized root channels throughout.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Circle)  
 Wetland Hydrology Present? ☒ Yes ☐ No  
 Hydric Soils Present? ☒ Yes ☐ No

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks:

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CR</u>	DATE <u>9/2/05</u>
Applicant/Owner _____	COUNTY <u>Mineral</u>
Investigator <u>ORTHNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>76</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>below new retaining wall</u>
(If needed, explain on reverse)	

VEGETATION

Dominant Plant Species	Relative Cover	% Overstory	% Understory	Indicator Status
1. <u>Sonchid triangularis</u>	—	—	<u>35</u>	<u>OBL</u>
2. <u>Mertensia ciliata</u>	—	—	<u>35</u>	<u>OBL</u>
3. <u>Eriogon coultteri</u>	—	—	<u>10</u>	<u>FACW</u>
4. <u>Poa reflexa</u>	—	—	<u>10</u>	<u>NL</u>
5. <u>Fragaria virginiana</u>	—	—	<u>10</u>	<u>FACW</u>
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____

*\* new # 9235 on USES of project site*

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC)	Total % Overstory _____	Total % Understory <u>80</u>	
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Remarks: \_\_\_\_\_

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>Assumed wetland hydrology here - oxidized root channel was found + new ski-way could</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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SOILS Pit 76? 9/2/05 Wolf CK. Village

Map Unit Name  
(Series and Phase):

Drainage Class: somewhat

Field Observations: poorly

Taxonomy (Subgroup): Argis Cryaguelis

Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, - Structure, etc.
6-9	A	7.5YR 2.5/2	—	—	L, d f gr
9-11	Bt	7.5YR 3/2	7.5YR 4/4	f, l, d	CL, 2 m sbk

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors

- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: At base of rock wall. No saturation. Few mottles  
+ one oxidized root channel observed in Bt horizon.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?

(Yes) No (Circle)

Wetland Hydrology Present?

(Yes) No

Hydric Soils Present?

(Yes) No

(Circle)

Is this Sampling Point Within a Wetland?

(Yes) No

Remarks:

Approved by HQUSACE 3/92

DATA FORM  
ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site <u>Village at Wolf Creek</u>	DATE <u>9/20/05</u>
Applicant/Owner <u>VNLC</u>	COUNTY <u>Mineral</u>
Investigator <u>ORTHNER / BOSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>77</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>Central Alameda</u>
(If needed, explain on reverse)	<u>Park Wetlands</u>

South of PIT 10

VEGETATION

Dominant Plant Species	Relative Cover % Overstory	Relative Cover % Understory	Indicator Status
1. <u>Deschampsia cespitosa</u>	—	FACW	70
2. <u>Potamogeton amplifolius</u>	—	FACW	10
3. <u>Carex aquatilis</u>	—	OBL	5
4. <u>Gentianopsis thomalis</u>	—	OBL	5
5. <u>Calma leptosepala</u>	—	OBL	5
6. <u>Phlox connata</u>	—	FAC	5
7. _____	—	—	—
8. _____	—	—	—
9. _____	—	—	—
10. _____	—	—	—

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC)	Total % Overstory _____	Total % Understory <u>100</u>	
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Remarks: \_\_\_\_\_

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>edge of large fen-wetland complex. This area likely has highground water in spring</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

P. 77 9/20/05

Wolf CK Village

Map Unit Name  
(Series and Phase):Drainage Class: poorly  
Field Observations  
Confirm Mapped Type? Yes No

Taxonomy (Subgroup):

Typic Cryaquolls

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2	O				
2-5	A1	10YR2/2	7.5YR 4/4	C, 1+2, d	L, 2 f gr
5-10	A2	10YR2/2	7.5YR 4/4	C, 1+2, d	L, 2 m sbk
10-14	Bw	10YR4/2	7.5YR 4/4	C, 1+2, d	sL, 2 m sbk
0-2	O				organic material

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content in Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks:

No saturation, mottles + oxidized root  
channels throughout.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes No (Circle)  
 Wetland Hydrology Present? ☒ Yes No  
 Hydric Soils Present? ☒ Yes No

Is this Sampling Point Within a Wetland? ☒ Yes No

Remarks:

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>Village at Wolf Creek</u>	DATE <u>9/20/05</u>
Applicant/Owner <u>VNC</u>	COUNTY <u>Mineral</u>
Investigator <u>ORTNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">(YES) NO</span>	Plot ID <u>78</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES (NO)</span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES (NO)</span>	Location ID <u>Between PITS</u>
(If needed, explain on reverse) <u>314</u>	

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	Relative Cover % Understory	Indicator Status
1. <u>Deschampsia caespitosa</u>	—	80	<u>FACW</u>
2. <u>Phleum commutatum</u>	—	5	<u>FAC</u>
3. <u>Packeria crocea</u>	—	5	<u>FACW</u>
4. <u>Podisleria eastwoodii</u>	—	5	<u>NL</u>
5. <u>Poa cf. alpina</u>	—	5	<u>FACU</u>
6. _____	—	—	_____
7. _____	—	—	_____
8. _____	—	—	_____
9. _____	—	—	_____
10. _____	—	—	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC)	Total % Overstory _____	Total % Understory <u>90</u>	
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Remarks: \_\_\_\_\_

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p>____ Stream, Lake or Tide Gauge</p> <p>____ Aerial Photographs</p> <p>____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (In.)</p> <p>Depth to Free Water in Pit _____ (In.)</p> <p>Depth to Saturated Soil _____ (In.)</p> <hr/> <p>Remarks: <u>Part of Animal Alaska Park</u>  <u>Sen complex</u>  <u>good place for hydrology monitoring well</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>____ Inundated</p> <p>____ Saturated in Upper 12 inches</p> <p>____ Water Marks</p> <p>____ Drift Lines</p> <p>____ Sediment Deposits</p> <p>____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p>____ Water-Stained Leaves</p> <p>____ Local Soil Survey Data</p> <p>____ FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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SOILS P.4 78 9/20/05 Wolf ck Village

Map Unit Name  
(Series and Phase):

Drainage Class:

somewhat

Field Observations

poorly

Taxonomy (Subgroup):

Typic Cryaquolls

Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	A1	7.5YR 2.5/2	—	—	L, 2 fgn
5-14	A2	7.5YR 3/2	7.5YR 4/4	f, l, d	L, 2 m sbk

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors

- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: No saturation, few mottle + oxidized root channels in A2 horizon, Good spot for piezometer.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Circle)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks: No saturation now, but just down gradient (~100-200') from organic soils/histic epipedons; therefore, likely saturated in Spring/early summer. Many FACW plants. Hydric soil.

Approved by HQUSACE 3/92



**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF Ck.</u>	DATE <u>9/20/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;"><input checked="" type="radio"/> YES <input type="radio"/> NO</span>	Plot ID <u>79</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;"><input type="radio"/> YES <input checked="" type="radio"/> NO</span>	Location ID <u>S. Alberta Wet Complex</u>
(If needed, explain on reverse)	<u>N. Trib wet E</u>

**VEGETATION**

Dominant Plant Species	Relative Cover % Overstory	Relative Cover % Understory	Indicator Status
1. <u>Senecio triangulans</u>	-	65	OBL
2. <u>Oxyopsis Andleri</u>	-	5	OBL
3. <u>Epilobium halleanum</u>	-	5	FACU
4. <u>Meibomia ciliata</u>	-	5	OBL
5. <u>Milvianthus odontoloma</u>	-	5	FACW+
6. <u>Geranium richardsonii</u>	-	5	FACU
7. <u>Bromopsis canadensis</u>	-	10	FACU
8. _____	-	-	-
9. _____	-	-	-
10. _____	-	-	-
Percent of Dominant Species that are OBL, FACW or FAC (excluding FACU)		Total % Overstory _____	Total % Understory <u>85</u>
Remarks: _____			

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p>____ Stream, Lake or Tide Gauge</p> <p>____ Aerial Photographs</p> <p>____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>Next to ephemeral stream with bed bank. Hydrology likely due to snowmelt runoff in drainage</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p>____ Inundated</p> <p>____ Saturated in Upper 12 inches</p> <p>____ Water Marks</p> <p>____ Drift Lines</p> <p>____ Sediment Deposits</p> <p>____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p>____ Water-Stained Leaves</p> <p>____ Local Soil Survey Data</p> <p>____ FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
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## SOILS

P. + 79

9/20/05 Wolf CV

Map Unit Name  
(Series and Phase):

Drainage Class:

Slightly  
poorly

Taxonomy (Subgroup):

Typic Cryaquolls

Field Observations

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	A1	10YR 2/2	—	—	L. 2 fgn
5-12	A2	10YR 3/2	7.5YR 4/4	f. l. d	L. 2 m sbr

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content In Surface Layer in Sandy Soils  
☐ Organic Streaking in Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks: No saturation, few mottles + oxidized root channels in A2 horizon, in drainage swale next to bed & bank. Drainage is now dry, is an ephemeral drainage.

## WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No (Circle)

Wetland Hydrology Present?

Yes No

Hydric Soils Present?

Yes No

(Circle)

Is this Sampling Point Within a Wetland?

Yes No

Remarks:

No saturation now, but next to ephemeral drainage with bed & bank. Predominance of wetland plants. Hydric soil.

Approved by HQUSACE 3/92

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CK</u>	DATE <u>9/20/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>Mineral</u>
Investigator <u>ORTHNER / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>80</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>near 10, 121</u>
(If needed, explain on reverse) <u>USFS land; NW 1/4 Village pm</u>	

**VEGETATION**

Dominant Plant Species	% Overstory	% Understory	Indicator Status
1. <u>Picea engelmannii</u>	<u>100</u>	<u>-</u>	<u>FACU-</u>
2. <u>Calamagrostis canadensis</u>	<u>-</u>	<u>60</u>	<u>OBL</u>
3. <u>Bromopsis canadensis</u>	<u>-</u>	<u>5</u>	<u>FACU</u>
4. <u>Erigeron cicuter</u>	<u>-</u>	<u>5</u>	<u>FACW</u>
5. <u>Fragaria virginiana</u>	<u>-</u>	<u>5</u>	<u>FACU</u>
6. <u>Ligularia biglovei</u>	<u>-</u>	<u>5</u>	<u>NL</u>
7. <u>Carex micropila</u>	<u>-</u>	<u>5</u>	<u>FAC</u>
8. <u>Achillea lanulosa</u>	<u>-</u>	<u>5</u>	<u>FACU</u>
9. <u>Geranium richardsonii</u>	<u>-</u>	<u>5</u>	<u>FACU</u>
10. <u>Sonchella maritima</u>	<u>-</u>	<u>5</u>	<u>OBL</u>

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC)	Total % Overstory <u>0</u>	Total % Understory <u>75</u>	
Remarks:			

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (In.)</p> <p>Depth to Free Water in Pit _____ (In.)</p> <p>Depth to Saturated Soil _____ (In.)</p> <hr/> <p>Remarks: <u>Near several areas of saturation</u>  <u>Seeps in area + 2 culverts</u>  <u>draining into area.</u></p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <u>none</u></p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
--	--

SOILS P: + 80 9/20/05 Wolf ck Village

Map Unit Name  
(Series and Phase):

Drainage Class: poorly  
Field Observations  
Confirm Mapped Type? Yes No

Taxonomy (Subgroup): Typic Cryagoulls

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2	A	10YR 3/2	—	—	L, 2 m platy
2-3	A2	10YR 3/3	7.5YR 4/4	C, 1+2, F	L, 2 m platy
3-14	A3	10YR 3/2 10YR 2/2 10YR 3/3	7.5YR 4/4	C, 1+2, d F, 1+2, F	L, 2 m sbk

Hydric Soil Indicators:

\* near clay 10121

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors

- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Entire profile is stratified, with mottles + oxidized root channels below 3". Depositional soil from runon from construction activities.

Several No saturation here but in places is saturated at the surface.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Circle)  
Wetland Hydrology Present? ☒ Yes ☐ No  
Hydric Soils Present? ☒ Yes ☐ No

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks: Several seeps in the area, + two large culverts draining into area.

**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
 (1987 COE Wetlands Delineation Manual)

Project/Site <u>VILLAGE AT WOLF CREEK</u>	DATE <u>9/20/05</u>
Applicant/Owner <u>VWC</u>	COUNTY <u>MINERAL</u>
Investigator <u>ORTHOFF / BUSCHER</u>	STATE <u>CO</u>
Do Normal Circumstances exist on the site? <span style="float: right;">YES <input checked="" type="radio"/> NO <input type="radio"/></span>	Plot ID <u>81</u>
Is the site significantly disturbed (Atypical Situation)? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Community ID _____
Is the area a potential Problem Area? <span style="float: right;">YES <input type="radio"/> NO <input checked="" type="radio"/></span>	Location ID <u>Hillside seep (VSFS)</u>
(If needed, explain on reverse)	<u>up slope E 10, 203</u>

**VEGETATION**

Dominant Plant Species	Relative Cover	% Overstory	% Understory	Indicator Status
1. <u>Sonchus oleraceus</u>	—	—	<u>20</u>	<u>OBL</u>
2. <u>Cardamine cordifolia</u>	—	—	<u>20</u>	<u>OBL</u>
3. <u>Conyza canadensis</u>	—	—	<u>20</u>	<u>FACW</u>
4. <u>Micranthus odoratissimus</u>	—	—	<u>20</u>	<u>FACW+</u>
5. <u>Mertensia ciliata</u>	—	—	<u>20</u>	<u>OBL</u>
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	Total % Overstory _____	Total % Understory <u>100</u>	
--	-------------------------	-------------------------------	--

Remarks: \_\_\_\_\_

**HYDROLOGY**

<p>Recorded Data (Describe in Remarks):</p> <p>Stream, Lake or Tide Gauge _____</p> <p>Aerial Photographs _____</p> <p>Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water _____ (in.)</p> <p>Depth to Free Water in Pit _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p> <hr/> <p>Remarks: <u>soil is saturated below 2". Hillside seep above creek.</u></p>	<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
--	---

## SOILS

p.t 81

9/20/05

wolf

CK. Village

Map Unit Name

(Series and Phase):

Drainage Class:

poorly

Taxonomy (Subgroup):

Aquic Haplo cryolls

Field Observations

Confirm Mapped Type? Yes No

## Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	A1	7.5YR 2.5/2	7.5YR 4/4	f, l, d	L, 2 f gn
5-12	Bw	7.5YR 3/3	7.5YR 4/4	f, l, f	V. chl. L

## Hydric Soil Indicators:

- ☐ Histosol  
☐ Histic Epipedon  
☐ Sulfidic Odor  
☐ Aquic Moisture Regime  
☐ Reducing Conditions  
☒ Gleyed or Low-Chroma Colors

- ☐ Concretions  
☐ High Organic Content In Surface Layer in Sandy Soils  
☐ Organic Streaking In Sandy Soils  
☐ Listed on Local Hydric Soils List  
☐ Listed on National Hydric Soils List  
☐ Other (Explain in Remarks)

Remarks: On steep hillside seep, soil is saturated below 2". Saturated but very little reduction occurring,

because oxygenated water flowing through & down slope.

## WETLAND DETERMINATION

Water is not stagnant & therefore does not

Hydrophytic Vegetation Present?

Yes

No (Circle)

Wetland Hydrology Present?

Yes

No

Hydric Soils Present?

Yes

No

(Circle)

Is this Sampling Point Within a Wetland?

Yes No

Remarks:

Saturated soil, most plants obligate, Hydric soil.

lose dissolved O<sub>2</sub>

Approved by HQUSACE 3/92

## Appendix B –Soil Laboratory Analysis





## LABORATORY ANALYSIS REPORT

REPORT TO: DAVE BUSCHER

LAB NO: 22966

BILL TO: BUSCHER SOIL & ENVIRONMENTAL  
P.O. BOX 156  
ROLLINSVILLE, CO 80474

DATE RCVD: 9/7/05

REPORTED: 9/15/05

PROJECT: WOLF CK

P.O. #:

SAMPLE ID:ORGANIC  
MATTER (%)

WC-1

25.5

WC-2

11.3





**Figure 2.**  
**Wetland Map**  
**Village at Wolf Creek**

**Legend:**

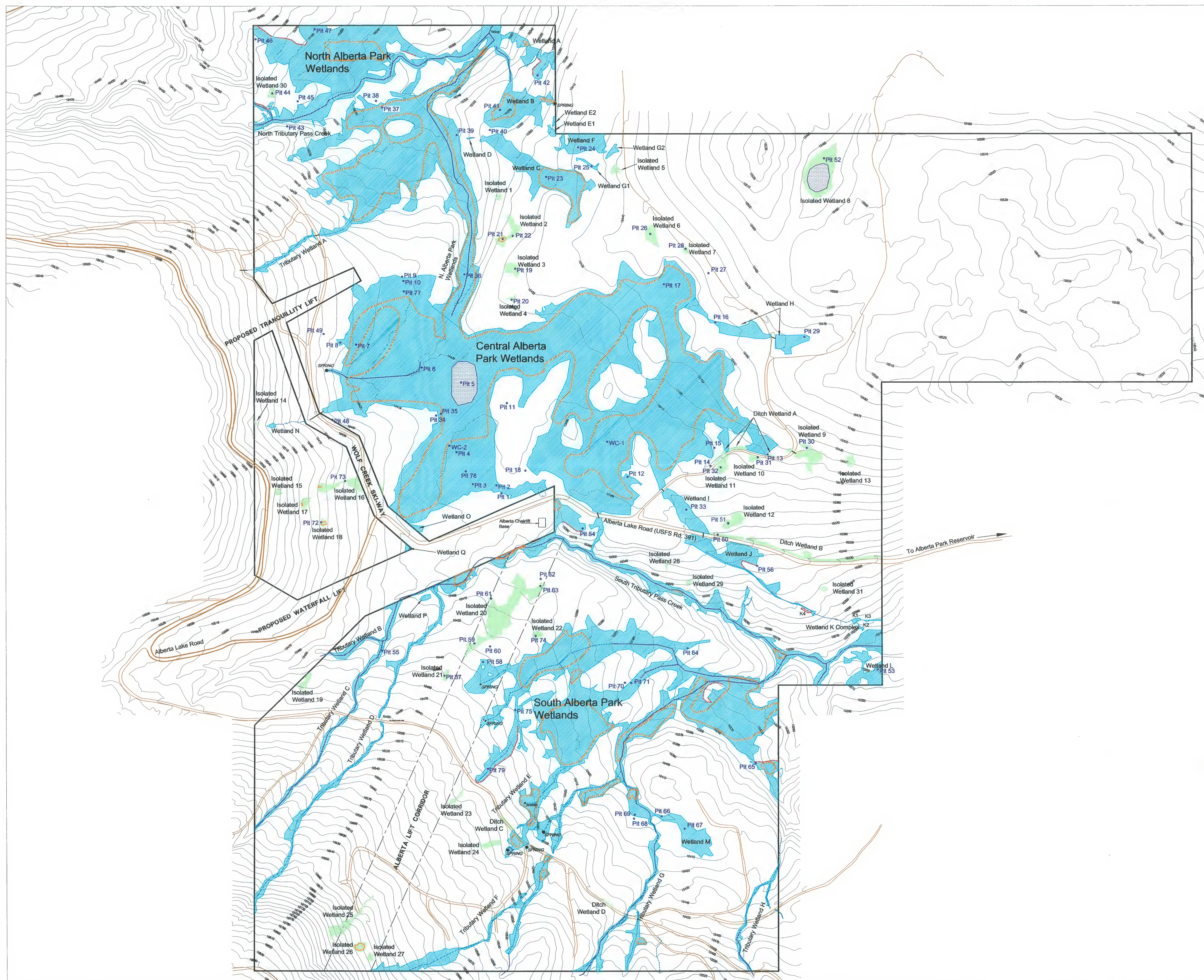
- - Property Boundary
- Wetlands -Jurisdictional
- Wetlands -non Jurisdictional
- Organic Soils -not surveyed  
(Histosols and/or Histic Epipedons)
- Aquatic Habitats (semi-permanent)
- Pit 15 - Soil Pit
- WC-1 - Soil Sample submitted for  
Organic Content analysis
- - - - - Wetland Boundaries Not Surveyed
- - Existing Roads
- - Perennial Streams
- - Ephemeral/Intermittant Streams
- - Culverts
- - Springs

Total Project Area = 287.5 acres  
Jurisdictional Wetlands = 61.91 acres  
Non-Jurisdictional Wetlands = 2.71 acres

Notes:  
Aquatic Habitats & Existing  
Roads located by aerial  
photography only.



Date: November 2005  
Scale: 1 in = 200 ft  
Contour Interval = 10 ft







DEPARTMENT OF THE ARMY  
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS  
4101 JEFFERSON PLAZA NE  
ALBUQUERQUE NM 87109-3435

Malanchuk/3282 *MA*  
OC *Daw*  
OD *MA*  
PPMD *CN*  
DDE *MDT*  
DE

November 7, 2005

Executive Office

Honorable Mark Larson  
State Representative  
State of Colorado  
1703 Rolling Road  
Cortez, Colorado 81321-2307

Dear Mr. Larson:

This is in reference to your October 10, 2005 letter regarding the proposed Village at Wolf Creek development near South Fork, Mineral County, Colorado (Action No. 2005 00624).

The U.S. Army Corps of Engineers (Corps), Albuquerque District, has been in contact with the developers of the Village at Wolf Creek since 1995. During that time the Corps has met numerous times on site with the developers, various state and Federal agencies and interested groups. From the start the Corps has made the developers aware of the provisions of Section 404 of the Clean Water Act (Act). Pursuant to the Act, the Corps regulates the placement of dredged and fill materials into waters of the United States, including wetlands. The developers have maintained that the project can be built without impacting jurisdictional waters of the United States, including wetlands, thus obviating the need for a permit from the Corps. The Corps has repeatedly requested project plans for review and has repeatedly informed the developers of the consequences of violating the Act. Unfortunately, there is no legal mechanism by which the Corps can compel the applicant to submit plans. Until the developers actually place fill material into waters of the United States, including wetlands, without a Corps permit, they are in compliance with the Act.

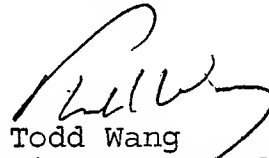
The Corps has been performing wetland delineations using the currently approved manual since 1987. Albuquerque District regulatory staff has been performing approximately 150 field wetland delineations a year during this time span. As such, the Corps is the nationally recognized expert at performing wetland delineations and Albuquerque District staff are the experts on delineations in southern Colorado, New Mexico and west Texas. The Albuquerque District staff has access to and frequently consults with the Corps' internal internationally recognized wetland experts at the Engineer Research and Development Center.

2005 00624

On October 17, 2005, the Corps met with the U.S. Environmental Protection Agency and various concerned groups in Alamosa, Colorado to discuss the wetland delineation that is being performed at the Village at Wolf Creek site. While recognizing that the proposed Village at Wolf Creek project has generated considerable controversy, the Corps maintains that it is crucial that it follow its own established protocols in verifying wetland delineations. Once the Corps has completed its process, the results will be available to all interested parties for review.

Thank you for your interest in this matter. If you have any questions please feel free to write or call Mr. Daniel Malanchuk, the chief of our Regulatory Branch at (505) 342-3282 or e-mail him at [daniel.malanchuk@usace.army.mil](mailto:daniel.malanchuk@usace.army.mil).

Sincerely,

A handwritten signature in black ink, appearing to read 'Todd Wang', is written over the typed name.

Todd Wang  
Lieutenant Colonel, U.S. Army  
District Engineer



DEPARTMENT OF THE ARMY  
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS  
4101 JEFFERSON PLAZA NE  
ALBUQUERQUE NM 87109-3435 /s/CULP/719-543-6914

MALANCHUK

October 21, 2005

Operations Division  
Regulatory Branch

Ms. Amelia S. Whiting  
Western Resources Advocates  
P.O. Box 1544  
Pagosa Springs, CO 81147

Dear Ms. Whiting:

This is in reference to your September 23, 2005 letter regarding the proposed Village at Wolf Creek development in tributaries of Pass Creek near South Fork, Mineral County, Colorado, Action No. 2005 00624.

As requested in your letter, the Corps of Engineers and the Environmental Protection Agency met with you, your clients, and other interested parties on October 17, 2005 in Alamosa, Colorado. At the meeting, I believe that we discussed all the issues raised in your letter.

The following is a summary of the Corps of Engineers' positions as given in the meeting. We intend to treat the Village's 2005 wetland delineation the same as other wetland delineations which we are asked to verify (i.e., the Environmental Protection Agency will not be asked to participate). The Corps' jurisdiction under Section 404 of the Clean Water Act is the placement of dredged or fill material into waters of the United States. Unless or until that happens without necessary permits, there is no violation. We cannot comment on whether or not a proposed project will need Section 404 permit(s) until we have an approved wetland delineation and a proposed project plan to review.



## WESTERN RESOURCE ADVOCATES

October 21, 2005

Lt. Col. Todd A. Wang  
District Engineer  
U.S. Army Corps of Engineers  
4101 Jefferson Plaza NE  
Albuquerque, NM 87109-3435  
[todd.a.wang.ltc@usace.army.mil](mailto:todd.a.wang.ltc@usace.army.mil)

Gene Reetz  
Max Dodson - 8EPR  
U.S. EPA - Region VIII  
999 18th Street, Suite 200  
Denver, CO 80202  
[dodson.max@epa.gov](mailto:dodson.max@epa.gov)

**Re: Village at Wolf Creek**

Dear Sirs:

I am writing this letter on behalf of the Sierra Club, the Wilderness Society, San Juan Citizens Alliance, Colorado Wild, and the San Luis Valley Ecosystem Council. Thank you for meeting with us to discuss our request for specific action to protect wetlands within the area proposed for development by Village at Wolf Creek Inc. We were encouraged by what appeared to be the U.S. Army Corps of Engineers ("Corps") ongoing interest and concern over this project and willingness to become more vocal about its potential impacts.

We were pleased to hear that the Corps will be willing to review and evaluate potential 404 implications of future plats prepared by the developer for county approval, even if the request comes from concerned citizens rather than the developer. We understood that the Corps' evaluations will consider the potential need for 404 permits, and the potential difficulties, if any, associated with trying to build without obtaining 404 permits. This will be of invaluable service to the decision-makers, including Mineral County and the U.S. Forest Service, to future investors, to individuals buying lots to build their homes, and to the public in general. As discussed, given the current structure of the proposed development, it appears likely that the Property Owners Association and the individual lot owners will have to deal with the brunt of wetlands and 404 permitting issues.

2005 00624

If you have any questions please feel free to write or call me at (505) 342-3282 or Ms. Anita Culp at (719) 543-6914.

Sincerely,

**SIGNED**

Daniel Malanchuk  
Chief, Regulatory Branch

Copy furnished:

Mr. Gene Reetz (8EPR-EP)  
Environmental Protection Agency  
999 - 18th Street, Suite 500  
Denver, Colorado 80202-2466

Mr. Bob Honts  
Village at Wolf Creek  
Development Corporation  
1402 San Antonio St, Ste 102  
Austin, TX 78701

Durango Reg Ofc  
So Colo Reg Ofc



We were also pleased to hear from Mr. Malanchuk that he has written a letter to the Village at Wolf Creek proponents stating that if and when the developers apply for a 404 permit, the Corps will be requiring an individual permit for this project. We look forward to reviewing that letter when we receive a copy through the FOIA process.

We were disappointed and remain concerned about the Corps' refusal to accept EPA's offer to go on site to assist in verifying the developer's most recent wetlands delineation. It is our understanding from the meeting that EPA's assistance was rejected because EPA does not usually assist in this process. However, as EPA's representative explained, in other districts, the Corps has welcomed EPA's help in particularly difficult or controversial cases. EPA has offered assistance here because this is not a usual case. This is a highly controversial project that threatens to impact irreplaceable resources (i.e., high altitude, fen wetlands at the headwaters of the Rio Grande, just below the Continental Divide).

Given the magnitude of the project, accounting for every bit of wetland is critical. While we are confident in the Corps' professional abilities, the type of wetlands on this site are extremely uncommon and there are few scientists in the nation who have made it their specialty. Colorado is fortunate to have one of the top scientists in this field, Dr. David Cooper, here at Colorado State University and the EPA has offered his expertise to this situation. It seems prudent to us to accept that offer of help. Moreover, having more than one set of professional eyes verify the work done by the developers' consultant can only help. In light of the controversial nature of the case, the developer's representation that no 404 permits are needed or will be applied for, and the threat of a development of this magnitude to the irreplaceable fen wetlands, we again encourage the Corps to reconsider its position on this matter.

Again, thank you for meeting with us and for your very clear interest in listening to our concerns. We look forward to continuing to work with you to ensure that these valuable resources are protected.

Sincerely,

Amelia S. Whiting  
Western Resource Advocates  
P.O. Box 1544  
Pagosa Springs, CO 81147  
[mely@westernresources.org](mailto:mely@westernresources.org)

cc: U.S. Sen. Ken Salazar (David Hiller, Erin Minks, Charlotte Bobicki, Ann Brown)  
U.S. Sen. Wayne Allard (Doris Morgan)  
U.S. Rep. John Salazar (Aaron Greco, John Whitney)  
U.S. Rep. Mark Udall (Lawrence Pacheco)  
Sen. Jim Isgar

Rep. Mark Larson  
Daniel Malanchuck, USACE  
Anita Culp, USACE  
Chris Lehnertz, EPA Region VIII  
Mark Pearson, San Juan Citizens Alliance  
Jeff Berman, Colorado Wild  
Suzanne Jones, The Wilderness Society  
Adriana Raudzens, Sierra Club  
Christine Canaly, SLVEC  
Steve Vandiver, Rio Grande Water Conservation District  
Michael Blenden, USFWS, Chair, San Luis Valley Wetlands Focus Area Committee  
Rio de la Vista, Coordinator, San Luis Valley Wetlands Focus Area Committee

---

## CONVERSATION/MEETING RECORD

---

Today's Date: October 18, 2005

☐ Telephone      ☐ Visit      ☒ Conference  
☐ Incoming      ☐ Outgoing      Location: Bureau of  
Reclamation, Alamosa, CO

Name of Person Contacted or in Contact with You:

Ms. Amelia S. Whiting  
Western Resources Advocates  
P.O. Box 1544  
Pagosa Springs, CO 81147

Telephone: (720) 470-4758

Subject: 2005 00624, wetland delineation in a tributary of Pass Creek

---

Date/Time of Conversation: 10/17/05

Summary:

1. Meeting was held with EPA and Western Resource Advocates and their clients. See attached list of people attending the meeting.

2. Issues were: WRA wants thorough wetland mapping, WRA is concerned about fens, CE and EPA should be proactive to protect wetlands, EPA should be a part of the wetland mapping verification process, EPA wants all the waters mapped, if the developer avoids a 404 permit than permitting will get passed on to individual landowners, and if the developer avoids 404 permits than secondary impacts to wetland won't be assessed. CE's opinions: this wetland verification will be treated no differently than all the other (i.e., EPA will not be involved), until CE has a wetland map and project plans to review than no comments can be made about 404 permit requirements, and no violation of 404 occurs until dredged or fill material is placed in waters of the U.S.

  
Anita E. Culp  
Senior Project Manager

\*\*\*\*\*

CONVERSATION RECORD

\*\*\*\*\*

17 Oct 2005

WOLF CREEK VILLAGE

NAME

REPRESENTING

Anita Culp

Corps of Engineers

Dan Malanchuk

11

Gene Reetz

EPA

Christine Connolly

SLVEC

Mark Pearson

San Juan Citizens Alliance

Amedie Whiting

Western Resource Advocates

Aaron Greco

CONG. JOHN SALAZAR

STEVE VANDIVER

RG water Conservation DISTRICT

Rio de la Vista

SLU Wetlands Focus Area Committee

LTC TODD WANG

Corps of Engineers

# THE DURANGO HERALD

Since 1881

## Wolf Creek project would kill lynx

October 13, 2005

By Jesse Harlan Alderman | *Herald Staff Writer*

Development of the Village at Wolf Creek could kill as many as 43 protected Canada Lynx over two to three decades, but that's not enough to violate federal endangered-species laws, according to an estimate in a U.S. Fish and Wildlife Service decision issued Wednesday.



The opinion is a victory for Texas billionaire Billie Joe "Red" McCombs, who is inching forward with plans to build a luxury resort for as many as 10,000 people on a 288-acre island of private land at 10,300 feet atop Alberta Peak in the middle of the Rio Grande National Forest.

A critical decision by the U.S. Forest Service to allow an access road across public land into the development had been stalled while the wildlife service considered the resort's potential effect on endangered lynx.

With the lynx hurdle seemingly cleared, a ruling on the access road is expected to come as soon as Nov. 28.

The wildlife service has 45 days to finalize the draft opinion. It estimates that increased traffic on U.S. Highway 160 near Wolf Creek Pass and construction of an access road will cause car collisions with lynx, killing at least 11 cats.

Traffic also threatens another 32 lynx by constricting their ability to migrate and mate, Allan Pfister, Western Colorado supervisor for the wildlife service, said during a conference call with reporters.

The lynx are collared and tracked by the state Department of Wildlife. The agency reported that at least 54 lynx have moved across U.S. Highway 160.

Despite the negative effects in the state, the wildlife service based its decision on the nationwide survival prospects of the endangered lynx.

"The development will not substantially impair the Southern Rockies' contribution to the survival of lynx habitat in the lower 48 states," Pfister said.

The decision also requires village developers to convene and fund a panel of between five and eight experts to find ways to minimize the development's harmful effects on the lynx in Southwest Colorado. Possible solutions include building a highway crossing for lynx and reducing speed limits, said Pfister.

A predatory mountain cat, Canada Lynx occupy a rapidly diminishing belt of boreal forest in 14 states within the contiguous United States.

A trapper near Vail killed Colorado's last lynx more than 30 years ago. But in 1999, the state DOW spearheaded an ambitious program to reintroduce the cats into the forest near the site of the proposed Village at Wolf Creek.

A state DOW spokesman said the agency is withholding comment until biologists review the decision.

2005 60624

Today, more than 200 lynx have migrated throughout Colorado and northern New Mexico.

Still, Pfister said, Colorado's contribution to the nationwide lynx reintroduction program is not as critical to the survival of the species as efforts in Maine, Minnesota, the North Cascade and Northern Rocky Mountains and Yellowstone National Park.

Before issuing its decision, the wildlife service studied traffic projections provided by the developers and the Forest Service. Those figures show between a 100 percent and 400 percent increase in the number of cars traveling over Wolf Creek Pass, Pfister said.

He said the Colorado Department of Transportation was consulted, but the agency "did not sign off on those estimates." CDOT has remained an outspoken critic of the proposed resort.

Bob Honts, village president and longtime McCombs point-man, said he is pleased with the decision. But Honts disputed the findings, saying far fewer than 43 lynx are threatened.

"If Mr. Lynx comes up to the highway and sees a certain amount of traffic, does he take out a pistol and shoot himself?" he said. "No, he would sit and wait until fewer cars come by and cross."

While he disputed the calculations in the study, Honts said the decision brings developers one step closer to breaking ground.

"It's a milestone," he said. "We believe we are very close to a Forest Service decision on roads."

Mike Blakeman, a spokesman for the Rio Grande National Forest, said the agency needs time to digest the wildlife service decision.

"People are concerned about losing lynx. I don't think anyone would deny that," he said. "No matter what you do, you'll impact something. I guess that's just physics."

Concerns about lynx will not derail federal approval of the village, said Jeff Berman, executive director of Colorado Wild, a Durango-based environmental group. Still, Berman read the wildlife decision as a tacit rebuke of the controversial development.

"I'm not pleased with any of this project," he said. "It is an outrageous project with political manipulation written over it, but I think the Fish and Wildlife Service stuck their neck out as far as they could."

---

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State Representative  
MARK LARSON  
1703 Rolling Road  
Cortez, CO 81321  
Home: 970-564-0999  
Capitol: 303-866-2914  
E-mail: marklarson@gobrainstorm.net

**COLORADO**  
**HOUSE OF REPRESENTATIVES**  
STATE CAPITOL  
DENVER  
80203

Republican Ranking Member:  
Transportation & Energy  
Committee  
Member:  
Education Committee

October 10, 2005

Lt. Col. Todd A. Wang  
District Engineer  
U.S. Army Corps of Engineers  
4101 Jefferson Plaza NE  
Albuquerque, NM 87109-3435  
[todd.a.wang.ltc@usace.army.mil](mailto:todd.a.wang.ltc@usace.army.mil)

**RECEIVED**  
21 Oct 05  
REGULATORY BR.  
CORPS OF ENGINEERS  
Exec Ofc 13 Oct 05

Max Dodson - 8EPR  
Assistant Regional Administrator  
U.S. EPA - Region VIII  
999 18th Street, Suite 200  
Denver, CO 80202  
[dodson.max@epa.gov](mailto:dodson.max@epa.gov)

**Re: Village at Wolf Creek Wetlands**

Dear Sirs:

It has come to my attention that the U.S. Army Corps of Engineers ("Corps") is in the process of authorizing the delineation of wetlands within the Wolf Creek pass area proposed for development by the Village at Wolf Creek Inc. I also understand that there has been some question as to whether nationally recognized experts in fen wetlands should be allowed to go on site to verify the delineation information provided by the developer. I am writing to urge both agencies to ensure that all necessary steps are taken and all available resources used to make sure that wetlands within the project area are properly located and identified.

I realize that EPA's experts do not routinely get involved in the Corps' delineation verification process. However, this is not a routine case. The project proposed by the developer is extremely ambitious and potentially damaging to wetlands - a development that could hold as many as 10,000 people in an area of less than 300 acres, a third of which could be wetlands. Many of these wetlands appear to be "fen" wetlands, identified

2005 00634



by the U.S. Fish and Wildlife Service as a resource deserving of special protection. The federal agencies themselves seem to have disagreed in the past about the wetlands acreage within the project area. In 2001, the Corps approved the developers' delineation of approximately 55 acres, but the Forest Service's draft EIS identifies 93 acres of wetlands. Finally, the project is very controversial and has been mired with allegations of irregularities.

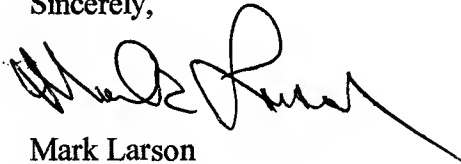
Given the controversial nature of this delineation, potential impacts to the wetlands there, and tremendous public concern over those wetland resources, I encourage the Corps to coordinate delineation review with the EPA and/or independent experts.

On a related matter, I understand that Village at Wolf Creek Inc. is representing that no 404 permits will be necessary for the development. Given the magnitude of the development, this will be difficult if not impossible goal to achieve, especially in light of the fact only recently the developer was asking for a 404 permit for 26 utility crossings. I understand that there are limitations on what the Corps or EPA can do to ensure the developer does not harm wetlands without a permit. However, I encourage your agency to be proactive and use whatever legal capability it has to require the developer to explain how they would avoid wetlands altogether and, if necessary, forewarn the developer and other entities that may rely on the developers' representations that a permit may in fact be needed.

In summary, I am requesting the Corps and EPA to, first, ensure a full and transparent review of the developers' wetlands delineation - including allowing EPA/independent experts to participate in the verification process; and, second, to ensure that actions are taken to prevent the destruction of wetlands by, at a minimum, requiring the developer to document how impacts that would necessitate a permit will be avoided and by issuing a warning letter should the developer fail to make a satisfactory showing.

Thank you for your attention to and action in this matter. Please do not hesitate to contact me at 970-749-2483, if you wish to discuss this matter further.

Sincerely,



Mark Larson  
State Representative  
State of Colorado  
1703 Rolling Road  
Cortez, CO 81321-2307  
marklarson@gobrainstorm.net

**Malanchuk, Daniel SPA**

---

**From:** Culp, Anita E SPA  
**Sent:** Friday, October 07, 2005 11:04 AM  
**To:** mely@westernresources.org; Wang, Todd A LTC SPA; Malanchuk, Daniel SPA; Gene Reetz (Reetz.Gene@epa.gov); Dodson.Max@epa.gov  
**Subject:** Wolf Creek Village meeting

The meeting between the Corps of Engineers, Environmental Protection Agency, and Western Resource Advocates is scheduled for:

Monday, October 17, 2005  
11:00 am to 1:00 pm  
at the Bureau of Reclamation conference room  
at 10900 Highway 160 East, Alamosa, CO (719-589-5856 attn: Jackie)

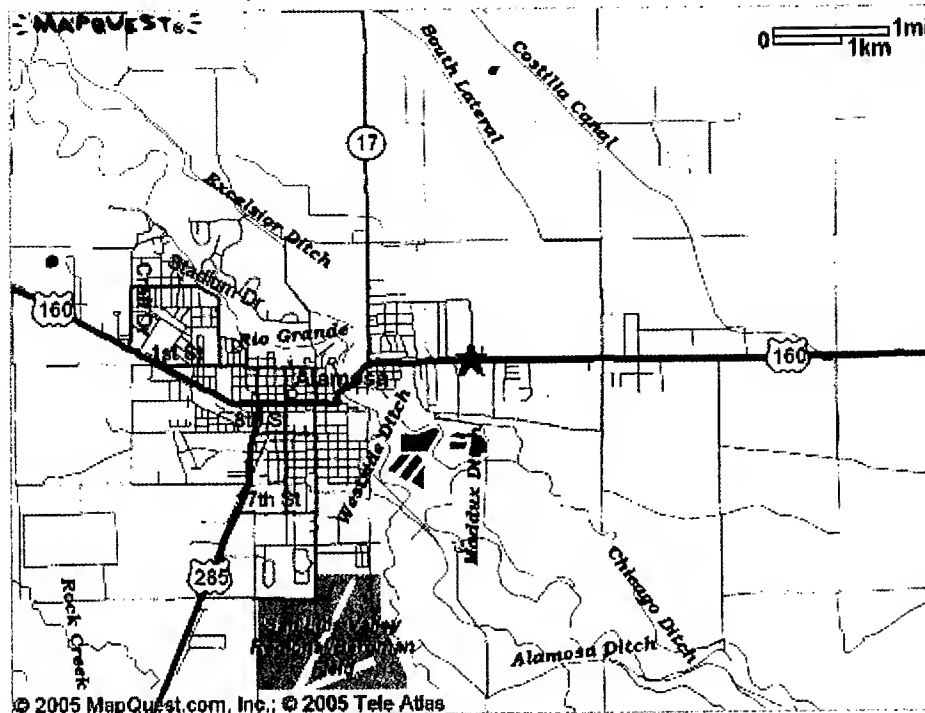
Attached is a map showing the location of the Bureau's office. They are on the south side of the highway in eastern Alamosa.

Anita Culp  
US Corps of Engineers  
Southern Colorado Regulatory Office  
720 N Main St, Ste 300  
Pueblo, CO 81003-3047  
719-543-6914  
[anita.e.culp@usace.army.mil](mailto:anita.e.culp@usace.army.mil)

2005 00624



★ 10900 E Us Highway 160 Alamosa, CO  
81101-9045, US



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This map is informational only. No representation is made or warranty given as to its content. User assumes all risk of use. Its suppliers assume no responsibility for any loss or delay resulting from such use.

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- [Homes for Sale](#)      • [Jobs](#)      • [Travel](#)      • [Airline Tickets](#)      • [Digital Camera](#)



DEPARTMENT OF THE ARMY  
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS  
4101 JEFFERSON PLAZA NE  
ALBUQUERQUE NM 87109-3435

Malanchuk  
OC *agw*  
OD *CS*  
PPMD *SN*  
DDE *R*  
DE

September 26, 2005

Operations Division  
Regulatory Branch

Ms. Rio de la Vista  
Coordinator  
San Luis Valley Wetlands Focus Area Committee  
Box 777  
Monte Vista, Colorado 81144

Dear Ms. de la Vista:

This letter responds to your September 1, 2005 letter regarding the San Luis Valley Wetlands Focus Area Committee's (Committee) concerns about the proposed Village at Wolf Creek Pass development in the San Juan Mountains of southern Colorado.

The Corps of Engineers's (Corps) mandate under Section 404 of the Clean Water Act (Act) is to regulate the placement of dredged or fill materials into jurisdictional waters of the United States, including wetlands. The Act limits the Corps' jurisdiction to surface waters only and various court cases such as Solid Waste Authority of Northern Cook County and Tullock further limit Corps regulatory authority over some classes of waters and over some classes of activities.

Albuquerque District has been involved in the proposed Wolf Creek Pass development since 1995 and Albuquerque District regulatory staff have made numerous visits to the project site. Unfortunately only the August 2004 visit by the Corps coincided with visits made by the Committee. We look forward to additional meetings on site at a future date.

The Corps takes its regulatory responsibilities seriously and that is why it considers all waters and wetlands, including those found at the Wolf Creek Pass site to be important and deserving of the highest degree of protection legally possible. It is in that same spirit that the Corps strives to make every wetland delineation that it is involved in of the highest quality, reliability and completeness possible.

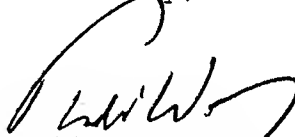
2005.00624

The Corps has coordinated with the Wolf Creek Pass developers since 1995 and has consistently urged them to apply for a Section 404 of the Clean Water Act Permit when their plans for the project are finalized. The Corps has also made the developers aware of the consequences of violating the Act.

The Corps shares your concerns that all of the Nations' resources receive the protection that they are entitled to and the Corps will do all it legally can to ensure that any potential development at Wolf Creek Pass will be done in compliance with applicable laws.

Thank you for your interest in this matter. If you have any questions please feel free to write or call Daniel Malanchuk, Chief of the Regulatory Branch at (505) 342-3282 or e-mail him at [daniel.malanchuk@usace.army.mil](mailto:daniel.malanchuk@usace.army.mil).

Sincerely,

A handwritten signature in black ink, appearing to read 'Todd Wang', is written over the typed name.

Todd Wang  
Lieutenant Colonel, U.S. Army  
District Engineer

Copy furnished:

Durango Reg. Office

September 25, 005

Lt. Col. Todd Wang  
District Engineer  
U.S. Army Corps of Engineers  
4101 Jefferson Plaza NE  
Albuquerque, NM 87109-1435

Subject: Wet lands at proposed Village at Wolf Creek (Colorado)

Perhaps you have never been to the Wolf Creek Pass Ski Area. There are two hundred and eighty acres of private land located on and just below the permitted Ski Area. The developers envision a full city of up to 10,000 residents on the land that is largely composed of wet lands.

The South part of the private property is located on the high ridge that is part of the Wolf Creek Ski Areas Forest Services permitted ski area. The Ski Area has a quad lift from the bottom to the top of the ridge. This lift is only 37 feet short of being one mile long.

This high mountain north facing timbered ridge furnishes a majority of the water that composes the wet lands. Two years ago when they were constructing the ski lift, there was a rather dry August, a dry October and a dry November. The contract ski lift builders were just stringing the main carrier cable and that was about mid-November.

At this time, I walked from the base of the lift to the very top. The ground all the way up was spongy. I do believe that there is bed rock several feet to perhaps ten feet from the surface and the available water sub-trickles down slope all the way to the wet lands.

The developers intend build roads and housing or condos all most half way up along the ski lift. I think that you will find that the high cut roads and building foundations will disrupt and possibly devastate the majority of the undergroundwater supply to the wet lands.

I am a skier and have been skiing on Wolf Creek for well over fifty years. I have helped developed the skiing from the very beginning with volunteer labor to help build the early rope tows. I have found a lot about the area from experience on the end of a long handle shovel and crowbar as we set poles for the rope tows.

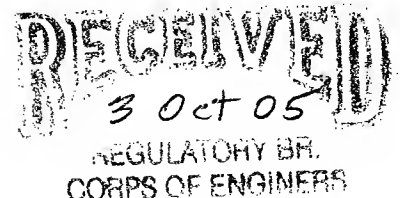
Enclosed is a copy of the Forest Service EIS designating some of the wet lands. This should help to understand the location of the lift and the construction plans.

I do hope that you will require the developers to obtain a individual 401 permit and not a nation wide permit. I can not envision how the developers can do all of their building on available dry land without bulldozing and filling in a great part of the wet lands.

Sincerely,  
Charles O. Elliott

*Charles O. Elliott*  
734 4th Ave  
Monte Vista, Colo. 81144

Charles O. Elliott  
734 4th Ave.  
Monte Vista, CO 81144-1435



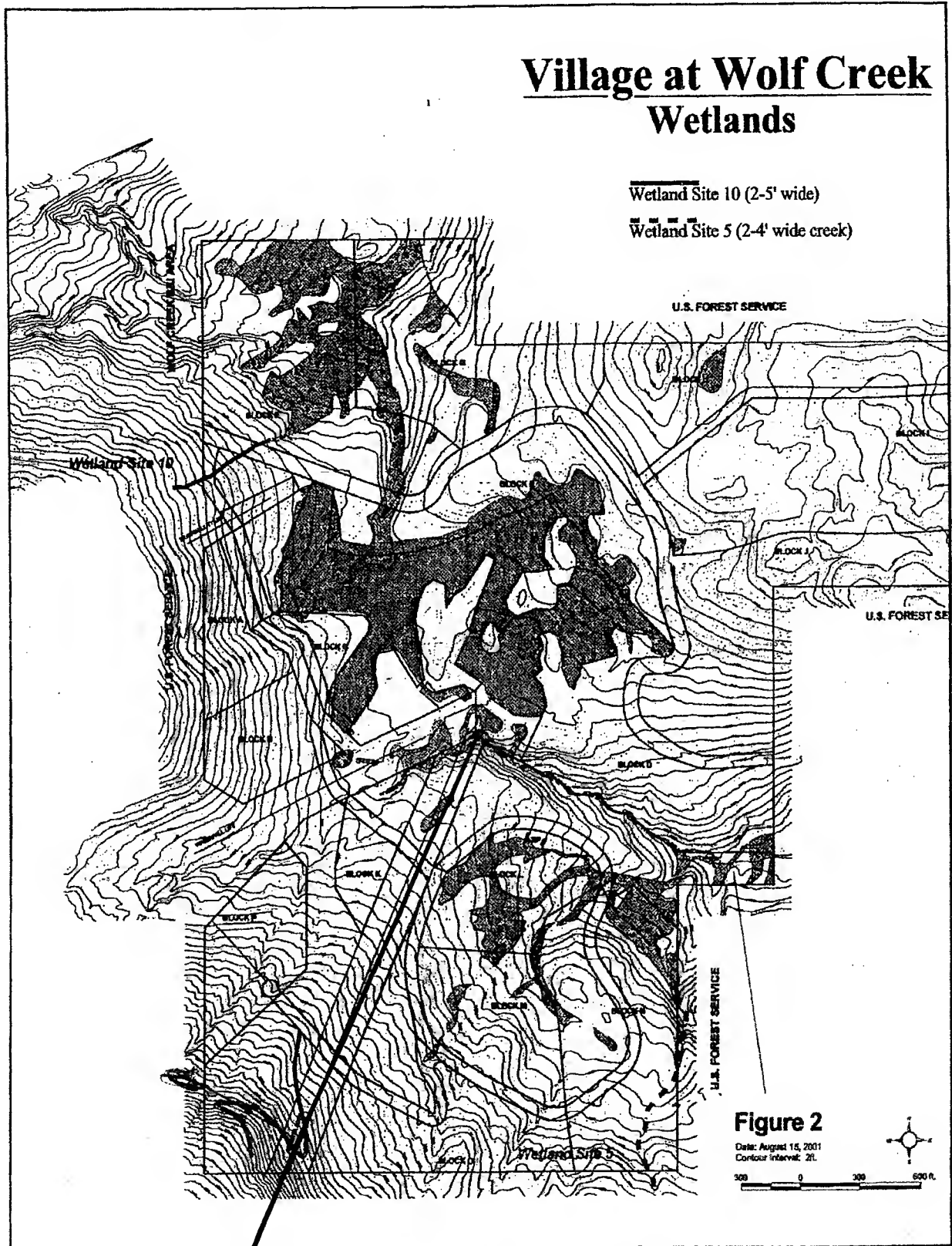


Figure 3.1-1. Wolf Creek Wetlands Delineation

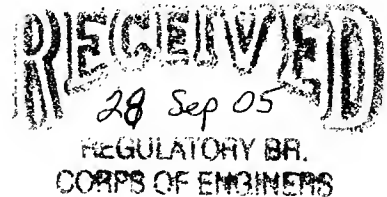




## WESTERN RESOURCE ADVOCATES

September 23, 2005

Lt. Col. Todd A. Wang  
District Engineer  
U.S. Army Corps of Engineers  
4101 Jefferson Plaza NE  
Albuquerque, NM 87109-3435  
[todd.a.wang.ltc@usace.army.mil](mailto:todd.a.wang.ltc@usace.army.mil)



Max Dodson - 8EPR  
Assistant Regional Administrator  
U.S. EPA - Region VIII  
999 18th Street, Suite 200  
Denver, CO 80202  
[dodson.max@epa.gov](mailto:dodson.max@epa.gov)

**Re: Village at Wolf Creek**

Dear Sirs:

I am writing on behalf of the Sierra Club, the Wilderness Society, San Juan Citizens Alliance, Colorado Wild, and the San Luis Valley Ecosystem Council, to formally request the Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA) to take specific actions to protect wetlands within the area proposed for development by the Village at Wolf Creek Development Corporation (VWC). Specifically, we request that the Corps and EPA (1) ensure that wetlands within the site are properly delineated and allow an independent expert to participate in the verification process; and (2) notify VWC, Mineral County, and the Forest Service, in writing, that Clean Water Act (CWA) § 404 permits will be required to build the development as proposed. The bases for our request are as follows.

### Wetlands Delineation

The Corps' jurisdictional determinations pursuant to 33 CFR Part 331 are final agency actions that must be based on sound scientific evidence and proper analysis and investigation. *National Wildlife Federation v. Hanson*, 623 F.Supp. 1539 (E.D.N.C. 1985), *aff'd* by *National Wildlife Fed'n v. Hanson*, 859 F.2d 313 (4th Cir. 1988); see also *Golden Gate Audubon Society Inc. v. U.S. Army Corps of Engineers*, 717 F. Supp. 1417 (N.D. Cal. 1988). If they are not so based, jurisdictional determinations can be challenged by citizen groups and reversed by the courts. *Hanson*, 623 F. Supp. 1539.

2005 00624

On October 19, 2001, the Corps issued a final jurisdictional determination concurring with the VWC's wetlands delineation for the project area. Based on our review, we believe that the developers' delineation underestimates the wetlands acreage present within the project area and, therefore, that the Corps jurisdictional current determination is inadequate. Accordingly, an investigation by the Corps and EPA into the actual wetlands acreage is warranted.

From a recent discussion with Anita Culp with the Corp's Pueblo, Colorado office, we understand that the developer has recently conducted additional wetlands delineation and that the Corps plans to go on site for verification purposes at the end of this month. We further understand from that discussion that EPA has offered independent wetlands experts to go on site for verification purposes, including an internationally recognized authority in fen wetlands, but that first the developer and then the Corps' Chief of Enforcement, determined that these experts should not go on site.

Given the controversial nature of the project, the Corps refusal to allow either EPA or independent experts to assist in the investigation is inexplicable. A transparent verification process that includes independent expert evaluation and review would greatly assist with the credibility of the process and will help prevent challenges to the delineation. There appears to be no logical reason for the Corps refusal.

The Corps' 2001 jurisdictional determination regarding the area proposed to be developed by VWC is based on incomplete and inaccurate data. The Corps and EPA must take all steps necessary to ensure the adequacy and accuracy of wetlands delineation within the project area and to modify the jurisdictional determination as necessary to reflect the actual wetlands acreage and location. We urge the Corps to accept the presence of independent experts in the verification process. We urge EPA to insist on the presence of these experts should the Corps reject such reasonable step.

#### Notify VWC of the Need for a CWA § 404 Permit(s)

The Corps and EPA have a duty to protect jurisdictional wetlands from unauthorized discharges of dredge and fill materials. 33 U.S.C. § 1311(a). While in most cases the agencies address unauthorized discharges after the discharges have taken place, they have the authority to take action to prevent threatened, unauthorized discharges before they occur. *See e.g.*, 33 U.S.C. §§ 1321(e)(1) and 1364; *Susquehanna Valley Alliance v. Three Mile Island Nuclear Reactor*, 619 F2d 231, 242-4 (3<sup>rd</sup> Cir. 1980). This authority certainly extends to warning letters and requiring submission of plans prior to construction where the evidence shows that impacts to wetlands are imminent.

In a letter dated July 29, 2004, VWC has made it clear that it will not be applying for any CWA § 404 permits because it believes permits will not be needed for the proposed development. Conceptually, the idea that a development of the magnitude proposed could be built within the project area without impacts to wetlands defies logic. The proposed development consists of 2,172 residential units on 162 lots, 5,176 bedrooms, 4,267 parking spaces, 222,100 square feet of commercial space (including 12 restaurants, multiple hotels, a

convention center and acres of shopping at the base of Alberta Lift) – all to be located within an area of little over 280 acres. According to the U.S. Forest Service's draft Environmental Impact Statement (DEIS) prepared in connection with the project, about a third of the project area (93 acres) are wetlands. Even VWC's incomplete wetlands delineation approved by the Corps' 2001 jurisdictional determination identifies over 53 acres of wetlands within the project area. It is simply inconceivable that a development of the magnitude proposed can proceed without impacts to the area's wetlands.

A review of the developer's plat - submitted to Mineral County as the basis for county approval and used by the Forest Service in their draft EIS - leaves little doubt that wetlands will be disturbed and that one or more CWA § 404 permits will be required. A copy of the developer's plat is attached to this letter as Attachment 1. The following are a few examples of how the plat submitted by VWC reveals that wetlands will be disturbed.

First, VWC's plat shows development occurring in wetlands within lots D-1; E-2, 3, 4, 6, 7, 9, 11, 12, 13, 14 and 15; F-1, 3, 5, and 7; G-3 through 8; H-5 and 7; I-27; J-24; L-1 through 4; M-1 and 2; N-3, 4 and 5; O-2; and U-1. These lots include significant wetlands areas. Some of these lots have virtually no building envelope left outside the wetlands areas (see e.g., E-12 and 14, and G-4, 5, 6, 7, and 8).

Lot L-1 exemplifies the impossibility of construction in some of these lots without disturbance of wetlands. Lot L-1 is identified for multi-family use, including 125 units, 303 bedrooms and 188 parking spaces. According to VWC's Proposed Development Plan (page 39), this lot includes 4.5 acres. VWC's wetlands delineation map of August 15, 2001 (which was submitted with both the PDP and final application of June 14, 2004), shows 2.2 acres of wetlands in Lot L-1, leaving only 2.3 acres for development bordering right up to the wetlands. Given snow storage requirements, the acreage requirements of roads, building envelope setbacks, walkways, waste removal, common areas, and other spatial requirements, it seems implausible to construct the proposed level of development on a mere 2.3 acres.

Second, the final plat approved by Mineral County contains a dedication of perpetual easements to the Village at Wolf Creek Property Owners Association that extend 25 feet beyond the right-of-way boundary for streets, roads and alleys for the purpose of placing excess snow from the right-of-way. These snow storage easements extend into wetland areas in several places over a wetland area consisting of approximately 1.1 acres (See Attachment 2, Figure 3 attached to Wolf Creek Ski Area Corporation's comments to the Forest Service's Draft EIS).

Third, Alberta Lake Road (FS 391) bisects and lies immediately adjacent to wetlands along several areas of the VWC property. The dedication of an additional 25-foot snow storage easement in the final plat, by its plain language, applies to Alberta Lake Road. The potential area of wetlands affected by snow removal and storage is therefore even greater. A Wolf Creek Ski Corporation consultant has estimated that the total additional wetland area affected by snow storage alone is approximately 1.5 acres.

Fourth, the Forest Service's preferred alternative for access to VWC's property consists of a road that exits the national forest directly into a delineated wetland on VWC's property. (See Alternative 4, DEIS at p. 2-9 and VWC's October 29, 2004 revised development map). According to an earlier study prepared by Sugnet Associates in connection with an earlier application to the Corps for authorization of utility easements, this specific area includes fen wetlands.

Finally, on at least one occasion, even VWC has admitted to the need to obtain a CWA § 404 permit. As recently as May of 2004, VWC applied for certification under Nationwide Permit No. 12 to install 26 utility line crossing points. *See Letter from Bob Honts to Houston Hannafious dated May 6, 2004.* The letter indicates that CWA § 404 nationwide permit certification was being sought because the utility line crossings would impact 0.11 acres of wetlands, including 0.059 acres of fen wetlands. Without any apparent explanation or back up information, only two months later, VWC simply informed the Corps that a CWA §404 permit will not be necessary.

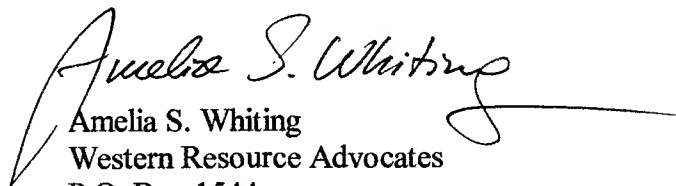
It is clear that VWC's proposed development will require CWA § 404 permits. It is also clear that, in spite of its previous admission that permits were needed, VWC has now taken the position that no such permits will be required. The Corps and EPA's silence and inaction in the face of VWC's position sends the wrong message to VWC, Mineral County, the Forest Service, and the public in general. It is allowing VWC to continue on its established path toward violations of the Clean Water Act. Most importantly, the Corps and EPA's silence and inaction will likely lead to the destruction of delicate, rare and irreplaceable fens.

### Conclusion

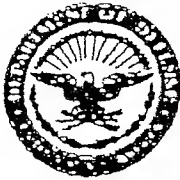
For the reasons stated, we urge the Corps and EPA to ensure an adequate and accurate delineation of wetlands within the area, including verification by independent wetland experts; and to notify VWC in writing that the proposed project will require one or more CWA § 404 permits.

We would like to meet with you to discuss these matters further. I will be contacting you within the next week to set up a meeting. Do not hesitate to contact me at 720.470.4758 before then. Thank you for your attention to this important matter.

Sincerely,

  
Amelia S. Whiting  
Western Resource Advocates  
P.O. Box 1544  
Pagosa Springs, CO 81147  
[mely@westernresources.org](mailto:mely@westernresources.org)

cc: U.S. Sen. Ken Salazar (Ann Brown)  
U.S. Sen. Wayne Allard (Doris Morgan)  
U.S. Rep. John Salazar (John Whitney)  
U.S. Rep. Mark Udall (Lawrence Pacheco)  
Sen. Jim Isgar  
Rep. Mark Larson  
Daniel Malanchuck, USACE  
Anita Culp, USACE  
Chris Lehnertz, EPA Region VIII  
Gene Reetz, EPA Region VIII  
Mark Pearson, San Juan Citizens Alliance  
Jeff Berman, Colorado Wild  
Suzanne Jones, The Wilderness Society  
Adriana Raudzens, Sierra Club  
Christine Canaly, SLVEC



DEPARTMENT OF THE ARMY  
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS  
SOUTHERN COLORADO REGULATORY OFFICE  
720 NORTH MAIN STREET SUITE 300  
PUEBLO CO 81003-3047

July 15, 2004

Operations Division  
Regulatory Branch

Bob Honts  
President/CEO  
Village at Wolf Creek Development Corp  
1402 San Antonio St., Suite 102  
Austin, TX 78701

Dear Mr. Honts:

This is in reference to your July 14, 2004, letter regarding the proposed "Village at Wolf Creek" (Village) and its status in relation to Section 404 of the Clean Water Act. The proposed project would be located adjacent to the Wolf Creek Ski Area, west of South Fork, Mineral County, Colorado (Action No. 1995 30021).

To this date the only construction activity at the Village requiring Section 404 authorization were three infiltration galleries that have been completed. The infiltration galleries were verified on August 29, 2001, by Anita Culp of the Southern Colorado Regulatory Office as being authorized by NWP 26. The completed infiltration galleries are in compliance with the Nationwide permit conditions.

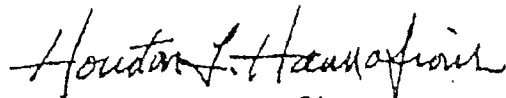
My letter to you on April 14, 2004, stated that it would be necessary for the Village representatives to resubmit updated plans to the Corps of Engineers for a determination of permit requirements once plans have been finalized. This is the result of the reauthorization of all Nationwide Permits, effective on March 18, 2002. When the plans are resubmitted, the Corps will once again consider the impacts of the proposed project on waters of the U.S., including wetlands. We anticipate little direct impact upon waters of the U.S. as a result of your willingness to avoid and reduce impacts to the maximum extent. However, indirect impacts will also be considered. Indirect impacts would include the effects of roads or other facilities on obstructing or altering the hydrology of the area which maintains the wetlands, and impacts of snow disposal upon them. Snow disposal into wetlands may not be an issue if snow removal involves only snow from paved, non-sanded streets. Disposal of sand-containing snow into wetlands, would, over the long term, change the

characteristics of the wetlands, and may even result in their conversion to uplands. The potential impacts to water quality from automobiles which leak or spill antifreeze, hydraulic fluids, gasoline, or other potential pollutants, would be under the authority of the Colorado Department of Public Health.

To expedite the review process, you are advised to submit an environmental analysis with your revised project plans. The report shall address project-related issues, including information on endangered species and cultural resources.

If you have any questions please write or call me at (970) 375-9509 or e-mail me at [houston.l.hannafious@usace.army.mil](mailto:houston.l.hannafious@usace.army.mil).

Sincerely,



Houston L. Hannafious  
Chief, Durango Regulatory Office  
Albuquerque District

Copy furnished:

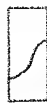



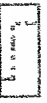

Colorado Department of Public Health  
Water Quality Control Division  
Attn: John Hranac  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530

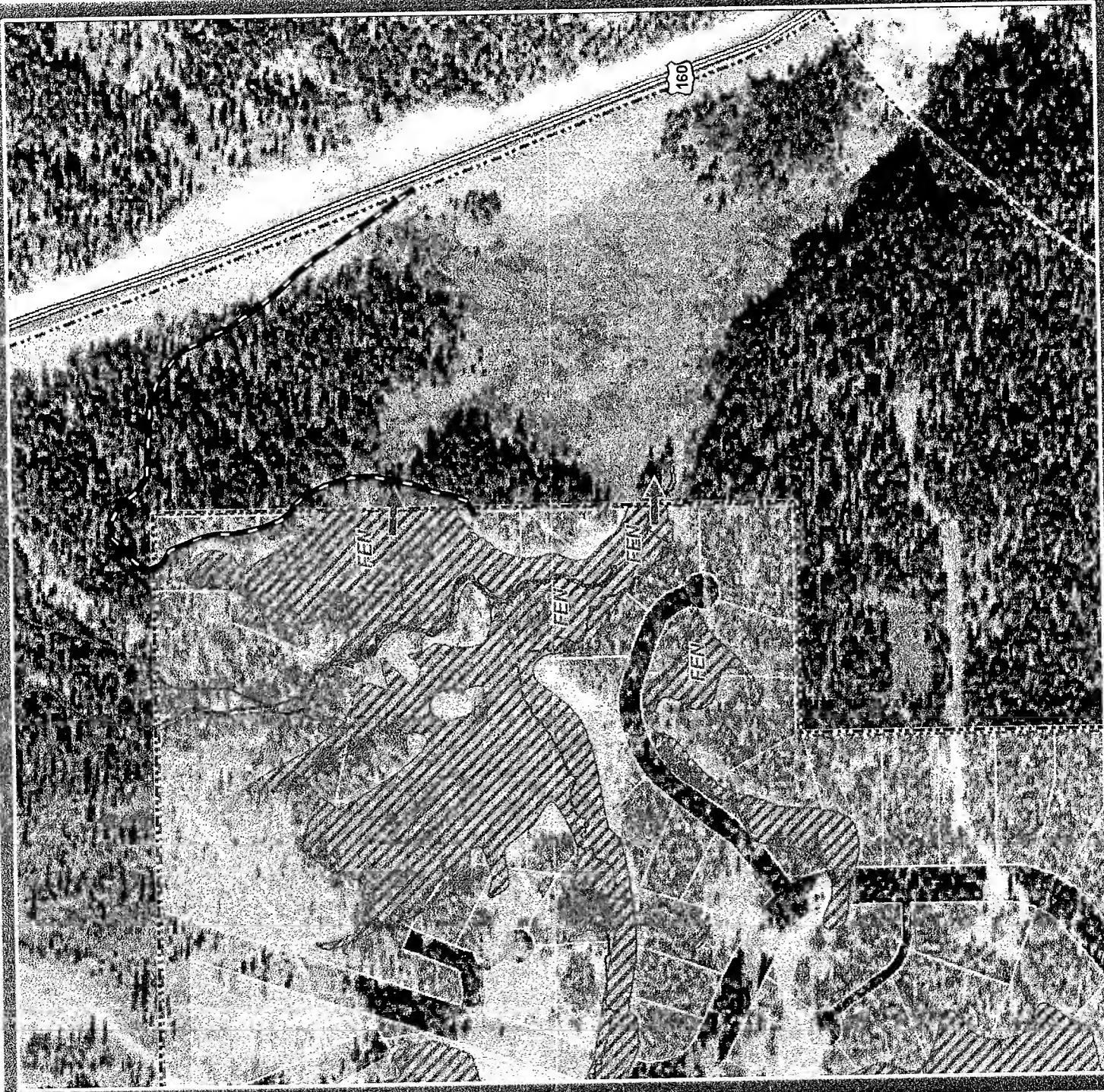


**Figure 1**

Alternative 3 - Wetlands Map

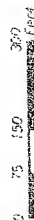
**LEGEND**

-  Stream
-  Wetland
-  Proposed Access Road
-  Private Parcel Boundary
-  Private Property Boundary
-  Wolf Creek Special Use Permit Boundary



**Disclaimer:**







The Fen annotation shown on this map indicates that some portion of the mapped wetlands within these areas is fen wetland. The fen locations shown on this map are based on narrative descriptions of the fen locations outlined in a letter report by Sugnet and Associates to the US Army Corps of Engineers, 5/17/1999, and do not portray officially delineated boundaries of fens.



Date: November 18, 2004  
Created By: ZP  
Prepared By:

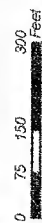
**Figure 2**  
Alternative 4 - Wetlands Map

**LEGEND**

-  Stream
-  Wetland
-  Proposed Access Road
-  Private Parcel Boundary
-  Private Property Boundary
-  Wolf Creek Special Use Permit Boundary

**Disclaimer:**

The Fen annotation shown on this map indicates that some portion of the mapped wetlands within these areas is fen wetland. The fen locations shown on this map are based on narrative descriptions of the fen locations outlined in a letter report by Sugnet and Associates to the US Army Corps of Engineers, 5/17/1999, and do not portray officially delineated boundaries of fens.



Date: November 18, 2004  
Created By: ZP  
Prepared By:











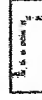



**WOLF CREEK**  
THE MOST SNOW IN COLORADO

**Figure 3**

**Snow Storage Easement**

**LEGEND**

-  Stream
-  Wetland
-  Proposed Access Road
-  USFS Road 391
-  Snow Storage Easement
-  Private Parcel Boundary
-  Private Property Boundary
-  Wolf Creek Special Use Permit Boundary

0 200 400 800 Feet



Date: November 18, 2004  
Created By: ZP  
Prepared By:











## WESTERN RESOURCE ADVOCATES

September 23, 2005

Lt. Col. Todd A. Wang  
District Engineer  
U.S. Army Corps of Engineers  
4101 Jefferson Plaza NE  
Albuquerque, NM 87109-3435  
[todd.a.wang.ltc@usace.army.mil](mailto:todd.a.wang.ltc@usace.army.mil)

Max Dodson - 8EPR  
Assistant Regional Administrator  
U.S. EPA - Region VIII  
999 18th Street, Suite 200  
Denver, CO 80202  
[dodson.max@epa.gov](mailto:dodson.max@epa.gov)

**Re: Village at Wolf Creek**

Dear Sirs:

I am writing on behalf of the Sierra Club, the Wilderness Society, San Juan Citizens Alliance, Colorado Wild, and the San Luis Valley Ecosystem Council, to formally request the Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA) to take specific actions to protect wetlands within the area proposed for development by the Village at Wolf Creek Development Corporation (VWC). Specifically, we request that the Corps and EPA (1) ensure that wetlands within the site are properly delineated and allow an independent expert to participate in the verification process; and (2) notify VWC, Mineral County, and the Forest Service, in writing, that Clean Water Act (CWA) § 404 permits will be required to build the development as proposed. The bases for our request are as follows.

### Wetlands Delineation

The Corps' jurisdictional determinations pursuant to 33 CFR Part 331 are final agency actions that must be based on sound scientific evidence and proper analysis and investigation. *National Wildlife Federation v. Hanson*, 623 F.Supp. 1539 (E.D.N.C. 1985), *aff'd by National Wildlife Fed'n v. Hanson*, 859 F.2d 313 (4th Cir. 1988); see also *Golden Gate Audubon Society Inc. v. U.S. Army Corps of Engineers*, 717 F. Supp. 1417 (N.D. Cal. 1988). If they are not so based, jurisdictional determinations can be challenged by citizen groups and reversed by the courts. *Hanson*, 623 F. Supp. 1539.

2005 00624

On October 19, 2001, the Corps issued a final jurisdictional determination concurring with the VWC's wetlands delineation for the project area. Based on our review, we believe that the developers' delineation underestimates the wetlands acreage present within the project area and, therefore, that the Corps jurisdictional current determination is inadequate. Accordingly, an investigation by the Corps and EPA into the actual wetlands acreage is warranted.

From a recent discussion with Anita Culp with the Corp's Pueblo, Colorado office, we understand that the developer has recently conducted additional wetlands delineation and that the Corps plans to go on site for verification purposes at the end of this month. We further understand from that discussion that EPA has offered independent wetlands experts to go on site for verification purposes, including an internationally recognized authority in fen wetlands, but that first the developer and then the Corps' Chief of Enforcement, determined that these experts should not go on site.

Given the controversial nature of the project, the Corps refusal to allow either EPA or independent experts to assist in the investigation is inexplicable. A transparent verification process that includes independent expert evaluation and review would greatly assist with the credibility of the process and will help prevent challenges to the delineation. There appears to be no logical reason for the Corps refusal.

The Corps' 2001 jurisdictional determination regarding the area proposed to be developed by VWC is based on incomplete and inaccurate data. The Corps and EPA must take all steps necessary to ensure the adequacy and accuracy of wetlands delineation within the project area and to modify the jurisdictional determination as necessary to reflect the actual wetlands acreage and location. We urge the Corps to accept the presence of independent experts in the verification process. We urge EPA to insist on the presence of these experts should the Corps reject such reasonable step.

#### Notify VWC of the Need for a CWA § 404 Permit(s)

The Corps and EPA have a duty to protect jurisdictional wetlands from unauthorized discharges of dredge and fill materials. 33 U.S.C. § 1311(a). While in most cases the agencies address unauthorized discharges after the discharges have taken place, they have the authority to take action to prevent threatened, unauthorized discharges before they occur. See e.g., 33 U.S.C. §§ 1321(e)(1) and 1364; *Susquehanna Valley Alliance v. Three Mile Island Nuclear Reactor*, 619 F2d 231, 242-4 (3<sup>rd</sup> Cir. 1980). This authority certainly extends to warning letters and requiring submission of plans prior to construction where the evidence shows that impacts to wetlands are imminent.

In a letter dated July 29, 2004, VWC has made it clear that it will not be applying for any CWA § 404 permits because it believes permits will not be needed for the proposed development. Conceptually, the idea that a development of the magnitude proposed could be built within the project area without impacts to wetlands defies logic. The proposed development consists of 2,172 residential units on 162 lots, 5,176 bedrooms, 4,267 parking spaces, 222,100 square feet of commercial space (including 12 restaurants, multiple hotels, a

convention center and acres of shopping at the base of Alberta Lift) – all to be located within an area of little over 280 acres. According to the U.S. Forest Service's draft Environmental Impact Statement (DEIS) prepared in connection with the project, about a third of the project area (93 acres) are wetlands. Even VWC's incomplete wetlands delineation approved by the Corps' 2001 jurisdictional determination identifies over 53 acres of wetlands within the project area. It is simply inconceivable that a development of the magnitude proposed can proceed without impacts to the area's wetlands.

A review of the developer's plat - submitted to Mineral County as the basis for county approval and used by the Forest Service in their draft EIS - leaves little doubt that wetlands will be disturbed and that one or more CWA § 404 permits will be required. A copy of the developer's plat is attached to this letter as Attachment 1. The following are a few examples of how the plat submitted by VWC reveals that wetlands will be disturbed.

First, VWC's plat shows development occurring in wetlands within lots D-1; E-2, 3, 4, 6, 7, 9, 11, 12, 13, 14 and 15; F-1, 3, 5, and 7; G-3 through 8; H-5 and 7; I-27; J-24; L-1 through 4; M-1 and 2; N-3, 4 and 5; O-2; and U-1. These lots include significant wetlands areas. Some of these lots have virtually no building envelope left outside the wetlands areas (see e.g., E-12 and 14, and G-4, 5, 6, 7, and 8).

Lot L-1 exemplifies the impossibility of construction in some of these lots without disturbance of wetlands. Lot L-1 is identified for multi-family use, including 125 units, 303 bedrooms and 188 parking spaces. According to VWC's Proposed Development Plan (page 39), this lot includes 4.5 acres. VWC's wetlands delineation map of August 15, 2001 (which was submitted with both the PDP and final application of June 14, 2004), shows 2.2 acres of wetlands in Lot L-1, leaving only 2.3 acres for development bordering right up to the wetlands. Given snow storage requirements, the acreage requirements of roads, building envelope setbacks, walkways, waste removal, common areas, and other spatial requirements, it seems implausible to construct the proposed level of development on a mere 2.3 acres.

Second, the final plat approved by Mineral County contains a dedication of perpetual easements to the Village at Wolf Creek Property Owners Association that extend 25 feet beyond the right-of-way boundary for streets, roads and alleys for the purpose of placing excess snow from the right-of-way. These snow storage easements extend into wetland areas in several places over a wetland area consisting of approximately 1.1 acres (See Attachment 2, Figure 3 attached to Wolf Creek Ski Area Corporation's comments to the Forest Service's Draft EIS).

Third, Alberta Lake Road (FS 391) bisects and lies immediately adjacent to wetlands along several areas of the VWC property. The dedication of an additional 25-foot snow storage easement in the final plat, by its plain language, applies to Alberta Lake Road. The potential area of wetlands affected by snow removal and storage is therefore even greater. A Wolf Creek Ski Corporation consultant has estimated that the total additional wetland area affected by snow storage alone is approximately 1.5 acres.



Fourth, the Forest Service's preferred alternative for access to VWC's property consists of a road that exits the national forest directly into a delineated wetland on VWC's property. (See Alternative 4, DEIS at p. 2-9 and VWC's October 29, 2004 revised development map). According to an earlier study prepared by Sugnet Associates in connection with an earlier application to the Corps for authorization of utility easements, this specific area includes fen wetlands.

Finally, on at least one occasion, even VWC has admitted to the need to obtain a CWA § 404 permit. As recently as May of 2004, VWC applied for certification under Nationwide Permit No. 12 to install 26 utility line crossing points. *See Letter from Bob Honts to Houston Hannafious dated May 6, 2004.* The letter indicates that CWA § 404 nationwide permit certification was being sought because the utility line crossings would impact 0.11 acres of wetlands, including 0.059 acres of fen wetlands. Without any apparent explanation or back up information, only two months later, VWC simply informed the Corps that a CWA §404 permit will not be necessary.

It is clear that VWC's proposed development will require CWA § 404 permits. It is also clear that, in spite of its previous admission that permits were needed, VWC has now taken the position that no such permits will be required. The Corps and EPA's silence and inaction in the face of VWC's position sends the wrong message to VWC, Mineral County, the Forest Service, and the public in general. It is allowing VWC to continue on its established path toward violations of the Clean Water Act. Most importantly, the Corps and EPA's silence and inaction will likely lead to the destruction of delicate, rare and irreplaceable fens.

### Conclusion

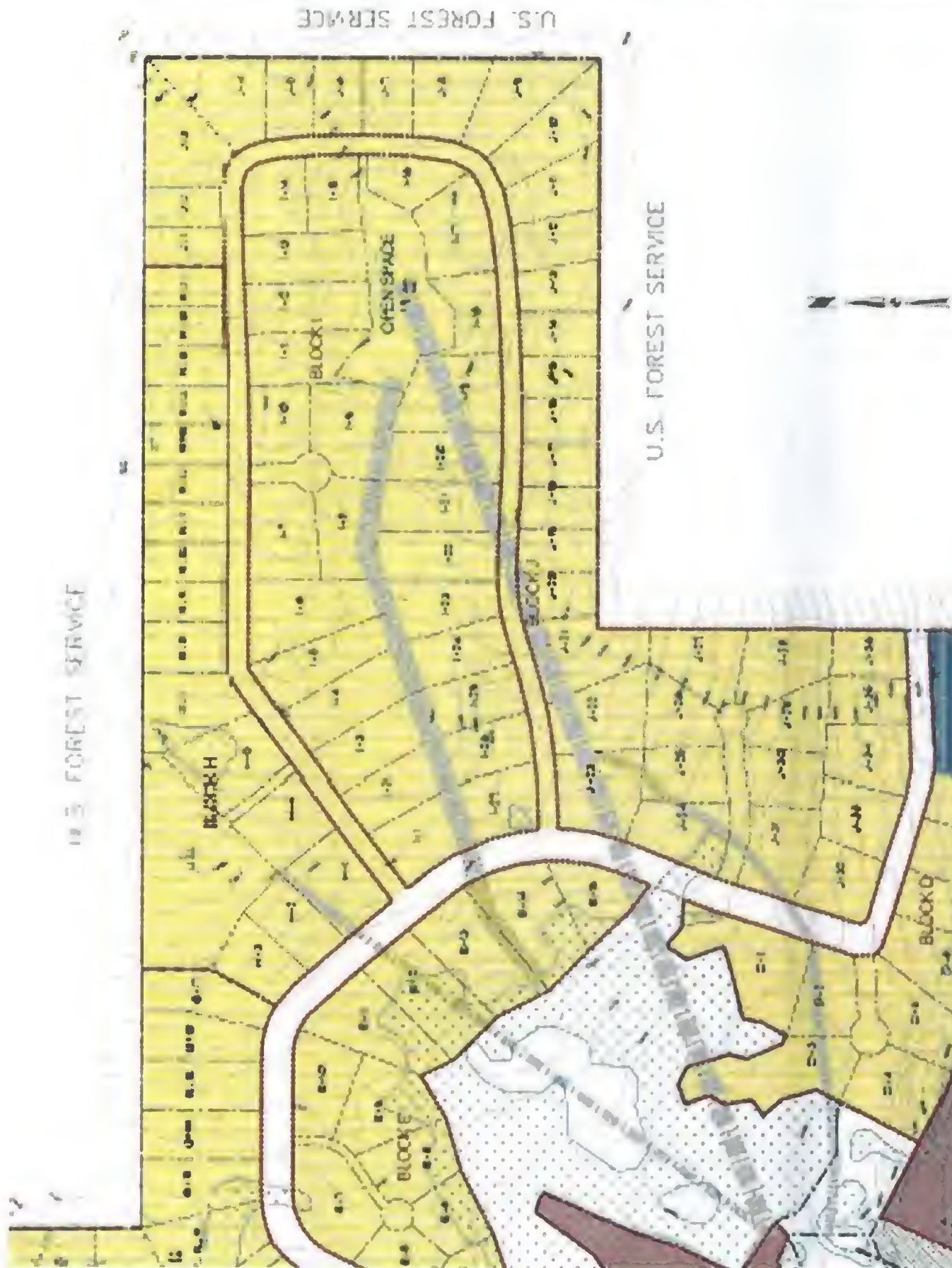
For the reasons stated, we urge the Corps and EPA to ensure an adequate and accurate delineation of wetlands within the area, including verification by independent wetland experts; and to notify VWC in writing that the proposed project will require one or more CWA § 404 permits.

We would like to meet with you to discuss these matters further. I will be contacting you within the next week to set up a meeting. Do not hesitate to contact me at 720.470.4758 before then. Thank you for your attention to this important matter.

Sincerely,

Amelia S. Whiting  
Western Resource Advocates  
P.O. Box 1544  
Pagosa Springs, CO 81147  
[mely@westernresources.org](mailto:mely@westernresources.org)

cc: U.S. Sen. Ken Salazar (Ann Brown)  
U.S. Sen. Wayne Allard (Doris Morgan)  
U.S. Rep. John Salazar (John Whitney)  
U.S. Rep. Mark Udall (Lawrence Pacheco)  
Sen. Jim Isgar  
Rep. Mark Larson  
Daniel Malanchuck, USACE  
Anita Culp, USACE  
Chris Lehnertz, EPA Region VIII  
Gene Reetz, EPA Region VIII  
Mark Pearson, San Juan Citizens Alliance  
Jeff Berman, Colorado Wild  
Suzanne Jones, The Wilderness Society  
Adriana Raudzens, Sierra Club  
Christine Canaly, SLVEC







# THE DURANGO HERALD

Since 1881

## Colorado Wild charges collusion

September 23, 2005

By Jesse Harlan Alderman | *Herald Staff Writer*

Attorneys for billionaire Wolf Creek developer Billie Joe "Red" McCombs covertly ghost-wrote federal policy for the U.S. Forest Service, according to the Durango-based environmental group Colorado Wild.



McCombs

The group sued to obtain numerous documents, including several faxes and e-mails between lawyers for McCombs' proposed Village at Wolf Creek resort and the U.S. Department of Agriculture, which oversees the Forest Service.

That correspondence appears to show that Steve Quarles, a village attorney from the Washington law firm Crowell Moring, drafted a letter that became a crucial component of the village's final building plans. Mineral County approved the building plans in October 2004.

"Plainly put, the developer is writing public-land policies," said Jeff Berman, executive director of Colorado Wild. "And the Forest Service rubber stamps them as their own with no public input or process whatsoever."

A regional Forest Service spokesman and McCombs' point-man on the project both deny charges of collusion, calling the correspondence typical of two sides negotiating a contract.

"As always, Jeff Berman is blowing a lot of smoke," said village president and longtime McCombs point-man Bob Honts. "And that's not environmentally friendly."

In 2003, Quarles originally sent a draft of a letter that eventually granted developers' temporary use of Forest Service Road 391.

In their building plans, developers listed the road as their access point into their parcel of private land within the Rio Grande National Forest.

After a series of exchanges between Quarles and Jim Snow, deputy assistant general counsel to the Department of Agriculture, the Forest Service sent a highly similar letter to the developers - completing a circle that started with the original draft written by Quarles.

The original fax from Quarles includes the note, "Here is the proposed letter." A subsequent fax from the Agriculture Department's lawyer, Snow, to Forest Service officials in Colorado includes a handwritten message, "P.S. Quarles may have some additional comments and, if so, I'll pass them on."

The letter was crucial because, as condition for approval, Mineral County required the village to demonstrate an access route from U.S. Highway 160, Berman said.

A spokesman for the Rocky Mountain region of the Forest Service, Jim Maxwell, flatly denied collusion with developers.

"I would characterize Colorado Wild as howling at the moon. Ghost-writing does not and did not occur in this case," he said. "The facts will come out, and the integrity of the Forest Service will come out."

The charges from Colorado Wild come months before a critically important Forest Service decision about access. In a final environmental review, the agency must decide whether to grant developers permanent access over Forest Service land. A decision is due in late November, Maxwell said.

Berman said Colorado Wild will release more documents in October that also demonstrate collusion in the lengthy environmental-review process.

Also this fall, a judge in Mineral County is expected to issue a ruling that will determine whether that 831-person county circumvented a public-review process required by law when it approved the village's building plans. Colorado Wild and Wolf Creek Ski Area each sued the county in that dispute.

Berman lamented that the "evidence of collusion" was not available to present in that case.

"It's unfortunate, but who knows, maybe judges read the paper," he said.

The approved plans for the village call for more than 2,000 housing units, 250,000 square feet of commercial space and a luxury hotel on a parcel of land adjacent to Wolf Creek Ski Area. If built as planned, the resort would be almost twice the size of Vail.

The development site - an island of private land in the middle of 4 million acres of national forest - would feature luxury hotels, boutiques, restaurants and a convention center.

Last week, U.S. Rep. John Salazar, D-Colo., demanded an in-person meeting with officials from the Rio Grande National Forest. The lawmaker plans to raise questions about the documents at the upcoming meeting with Forest Supervisor Peter Clark, according to Salazar's spokesperson Nayyera Haq.

"He expects the Forest Service to be very forthcoming," she said.

Another opponent of the village, state Rep. Mark Larson, R-Cortez, said the Forest Service is bowing to political pressure from McCombs.

"It's sad, but all you have to do is follow the money," he said. "The Forest Service, who is supposed to be the caretakers of our public lands, is now being driven by the attorneys."

He added: "It stinks to high heaven."

*Reach Staff Writer Jesse Harlan Alderman at [here](#)*

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Entered 12/13/2005

Sept. 21, 2005

Dear H. Wang,

Please take a very close look at the proposed Village at Wolf Creek development. Army Corps of Engineers specialty is wetlands. I am understanding there are 40 plus acres of wetlands within this 200 plus acres of proposed landsite. As a nation we are losing our wetlands, please help save this area.

I wish this total land could be saved and not be given to pavement. Our wildlife depends on us to protect a home for all of them and their future.

Please send me details that you come up with in regards to this proposed development.

Thank you,



RECEIVED  
27 Sep 05  
REGULATORY BR.  
CORPS OF ENGINEERS

2005 00634



2005 00624

Reviewed by: Ch, Ofc \_\_\_\_\_  
Ch, Reg Br \_\_\_\_\_

DEPARTMENT OF THE ARMY  
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS

TRIP REPORT - REGULATORY BRANCH

[X] Field Jurisdiction Determination      [ ] On Site Meeting      Use Investigator's Report  
[ ] Environmental Site Review            [ ] Speech/Presentation      for alleged violations

Date/Time of Visit 19-20 September 2005      Date Meeting/Visit Request Received 14 Sep 2005

Evaluator Anita Culp      Project: VILLAGE AT WOLF CREEK, DEVELOPMENT, PASS CREEK,  
SOUTH FORK

1. Location:

Waterway: north and south tributaries of Pass Creek

Town: South Fork      County: Mineral      State: Colorado

Sec:              Twp:      Rge:      UTM: Zone 13, 342725 E, 4148341 N

Directions to site: Just north of Wolf Creek Ski Area and east of US Highway 160

2. People Present:

Representing:

Address/Phone No.:

Anita Culp	Corps of Engineers	
Andrea Orthner	Western Ecological Resource	303-449-9009
David Buscher	Buscher Soil & Environmental Consult	303-258-7280
Don Ganser	Arcadis G&M, Inc.	
Sam Brown	Sam Brown & Co.	303-666-0064
Dusty Hicks		

3. Proposed Work (type/description): The proposed project is a multi-use development adjacent to the Wolf Creek Ski Area.

4. Topics Discussed/Presented:

We discussed the draft wetland data sheets. I advised Buscher to not use "Aquic Moisture Regime" as a hydric soil indicator as Jim Wakely (Corps ERDC) had advised me that it was an obsolete indicator. Other listed and appropriate indicators should be used instead (it would not change any conclusions). I had earlier advised Orthner to use the 1996 plant list, but Wakely had advised me that only the 1988 plant list was official. There were a few differences between the lists, but it would not change any conclusions. I advised Orthner to use the 1996 plant list as a reference when the 1988 plant list did not list a particular species.

I looked at representative data points, springs, seeps, ditches, and potentially isolated wetlands and streams. I looked at as many sites as possible during the time available but did not visit every data point or every potential isolated wetland.

I explained how Albuquerque District interprets springs (as defined for nationwide permit use) vs. seeps. We looked at several examples and I felt Orthner had a good understanding of the District's interpretation. I asked her to include and label springs on the final mapping.

I looked at ditches, in particular the roadside ditches in the east central area and the south area of the project site. I determined which ditches were built on

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upland, those portions which were built in wetlands, and those wetlands for which a ditch created a tributary connection even though the ditch itself was nonjurisdictional.

I visited as many potentially isolated wetlands as possible. We looked at several examples of wetlands which were tributary via an upland swale, isolated because of the lack of any upland swale connecting it to other waters, or which had high ground separating it from other waters. I felt Orthner had a good understanding of the District's interpretation of isolated waters. I asked her to include and label the isolated wetlands on the final mapping.

I looked at several streams and wetland swales. I explained how Albuquerque District interprets ordinary high water mark and streambeds. I asked Orthner to include the streams (perennial, intermittent, and ephemeral) on the final mapping. In the southern area of the project site, we looked at a road which crossed many wetland swales and streams. In some places, the road was culverted or had an old corduroy-log crossing and in some places it was obvious that water flowed over the road. There were a number of sites where the stream was clearly defined leading downhill to the road, there was no culverted road crossing, and the stream did not again become a defined channel until a short distance downhill of the road. I explained that Albuquerque District does not consider such instances to be a break in tributariness.

We discussed organic soils. For nationwide permit use in Colorado, fens are defined as any wetland with a histosol or histic epipedon. I asked Buscher to show the boundaries of organic soils on the final mapping but that existing data should be used and additional soil pits were not required.

I looked at several sites where both the Wolf Creek Ski Area's wetland consultant and the Village at Wolf Creek's wetland consultant had flagged wetland boundaries. In all instances, the two sets of flags had minimal differences averaging 5 feet apart. (After later discussions with Van Truan and Dan Malanchuk, I decided that since the Village owned the land and the Ski Area only had an easement on the land, that the Corps would go with the Village's wetland boundaries.)

5. Determinations: ☒ Sec. 404 ☐ Sec. 10

H/W: ☒ Yes ☐ No Jurisdictional Area: Open Water \_\_\_\_\_ ac./s.f. Wetlands \_\_\_\_\_ ac./s.f.

Isolated: ☒ Yes ☒ No Special Aquatic Site: ☒ Yes ☐ No Type mostly wet meadow

Enclosures

☒ Map

☐ Area/Project Sketch

☐ Photographs of Worksite

☐ Wetland Determination Data Forms (Date)

Copies Furnished: ☒ Durango Reg Ofc ☒ So Colo Reg Ofc ☐ Reg Br ☐ Other \_\_\_\_\_



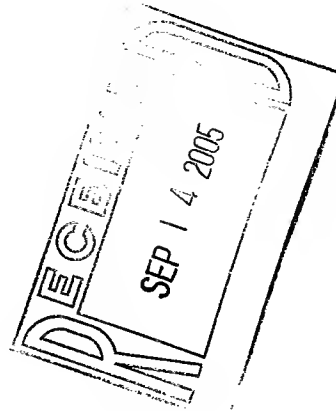
(Signature)

12 December 2005



**WESTERN  
ECOLOGICAL  
RESOURCE, INC.**

711 Walnut Street  
Boulder, Colorado 80302  
(303) 449-9009  
Fax (303) 449-9038  
mail@westerneco.com



2005 00624

September 13, 2005

Anita Culp  
U.S. Army Corps of Engineers  
720 N. Main St., Suite 300  
Pueblo, CO 81003

Via Courier

RE: Village at Wolf Creek

Dear Anita:

Enclosed please find a draft wetland map, a set of field data forms and a project location map for the Village at Wolf Creek project. Due to inclement weather, a small portion of the wetland boundary survey has not been completed. However, we expect to have a completed wetland map for our field meeting on Monday, September 19, 2005. It is my understanding that we will meet at 12:30 pm at the base of the Alberta Park ski lift, which is noted on the project location map.

If you need to reach me Monday morning before I get out of range on the pass, my cell phone number is 720-289-1665. I look forward to meeting you.

Sincerely,

Rea Orthner  
Ecologist

RO/ssc

Enclosures

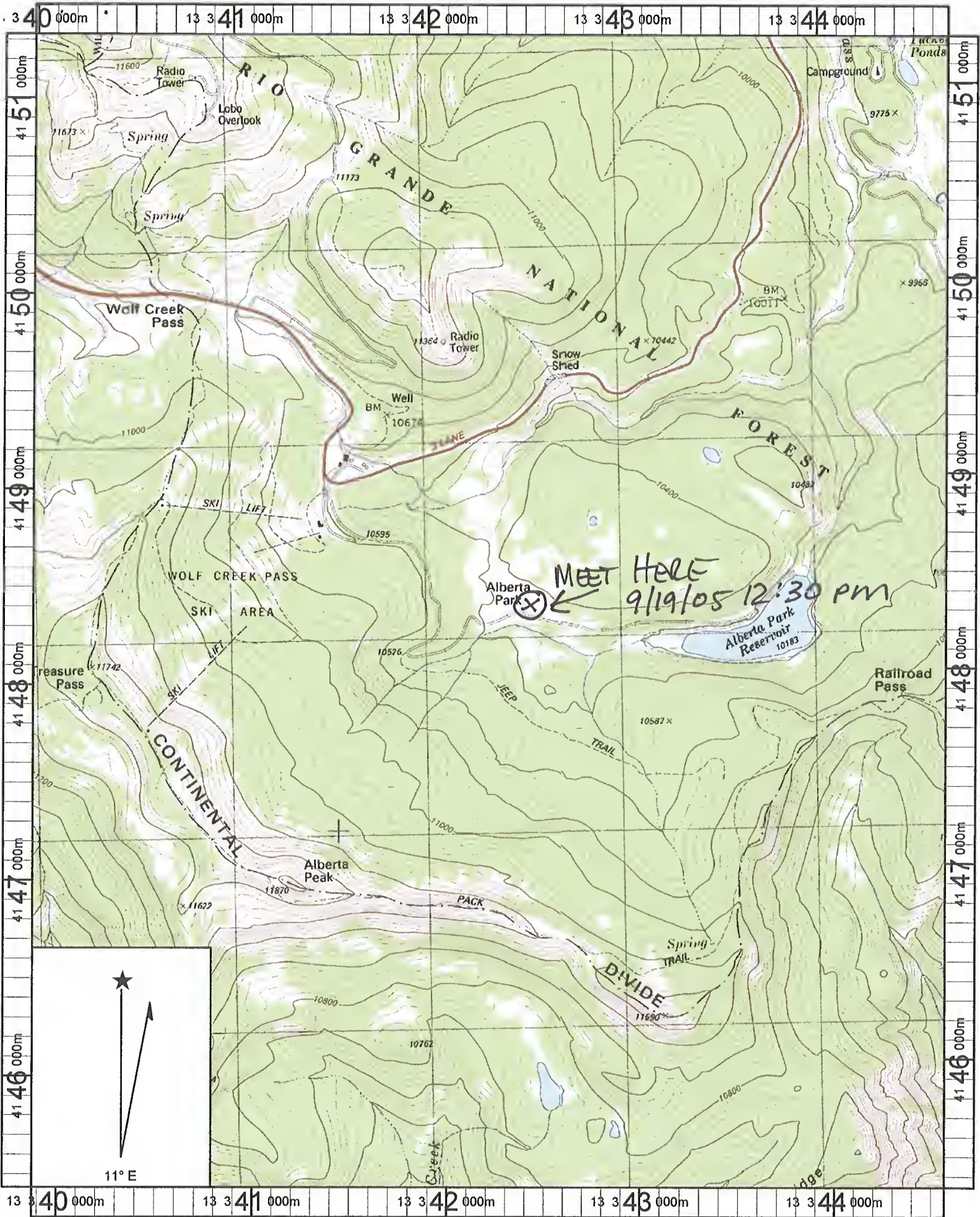
Draft map and data forms were  
discarded after final report was  
approved on 12/9/05.

UTM Zone 13

342725 E

4148341 N

2 tribs of Pass Creek



USGS 7.5' WOLF CREEK PASS QUADRANGLE

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September 19, 2005

Lt. Colonel Todd A. Wang  
District Engineer  
United States Army Corps of Engineers  
4101 Jefferson Plaza NE  
Albuquerque, NM 87109-3435

Re: Wetland Delineation for the Proposed Development at Wolf Creek

Cc: Senator Ken Salazar  
Senator Wayne Allard  
Congressman John Salazar  
Congressman Mark Udall

Dear Lt. Colonel Wang:

The San Juan Citizens Alliance is a membership-based organization in southwest Colorado with over 500 members. We work with citizens throughout the area on public land management issues. Our members are very concerned about the proposal to put a large development at the top of Wolf Creek Pass. The proposed development would have a significant impact on surrounding public lands, wildlife, water quality, and wetlands.

On behalf of our members, we write to express concern about the new wetland delineation for the site of the proposed "Village" on top of Wolf Creek Pass. Specifically, there is great concern about the role that the Army Corps of Engineers is playing in that specific process.

The current wetland delineation process is extremely important and must be a transparent one. It is clear to anyone that has been to the site of the development that a large percentage of the private inholding is comprised of wetlands. It is hard to understand how a development of the magnitude proposed would not have serious consequences for the wetlands, which include fens.

We urge you to include experts from the Environmental Protection Agency in the process, allowing them to verify the current delineation on behalf of the public interest. We understand that EPA experts had originally been invited to review the delineation, but were then uninvited at the request of the developers. EPA's experts should not be shut out of this process, especially not at the request of the developers.

2005 091624

Lt. Colonel Todd A. Wang

Page 2

September 19, 2005

Specifically, the EPA's experts should be invited to perform on-site verification of any and all wetland delineations on the site of the proposed "Village" at Wolf Creek. This needs to take place before the site is under snow, before the Corps confirms the wetland delineation, and before any permit decision is made.

The developers have said time and again that their proposed development would not have any impacts on the wetlands. If they are indeed being honest, then there should be no reason for them to request that the EPA not be involved. It seems that they would want a transparent, public process.

Further, despite the fact that the developers claim they will not impact wetlands in the process of building a city of 10,000 people on only 287.5 acres, please require that an Individual 404 wetlands permit be applied for on the site of the proposed "Village" at Wolf Creek. It is apparent that the level of impacts would exceed the minimum impact threshold required for use of Nationwide Permits. Furthermore, the Corps has standing policy in Colorado not to use Nationwide Permits when fens are involved because these unique wetlands are irreplaceable.

To allow the construction to go forward under a Nation-wide permit would not fulfill the Corps' duty to the public's interest or the resource it manages. A quality, complete map must be prepared and disclosed to the public in order to maintain the credibility of the Corps and to insure the greatest possible oversight of this potentially damaging development.

Thank you for taking our comments and requests into consideration. Please contact me at (970) 259-3583 if you would like to discuss this further.

Sincerely,

A handwritten signature in black ink, appearing to read "Amber Clark", with a long horizontal flourish extending to the right.

Amber Clark  
Public Lands Coordinator

**Robb, Diana M SPA**

---

**From:** Malanchuk, Daniel SPA  
**Sent:** Monday, September 19, 2005 7:29 AM  
**To:** Robb, Diana M SPA  
**Subject:** FW: FOIA Request



Colorado Wild Army  
Corps of En...

Diana -

Start putting this together.

Dan

-----Original Message-----

**From:** Travis Stills [mailto:stills@frontier.net]  
**Sent:** Friday, September 16, 2005 1:53 PM  
**To:** Wallace, Dennis A SPA; Rayl, Sandy L SPA  
**CC:** eanita.e.culp@usace.army.mil; Malanchuk, Daniel SPA; Wang, Todd A LTC SPA  
**Subject:** FOIA Request

**To:** Dennis Wallace  
Sandra L. Rayl  
**CC:** Anita Culp  
Daniel Malunchuk  
**From:** Travis E. Stills, Attorney for Colorado Wild

Please find attached in pdf format a Freedom of Information Act Request. Please confirm by e-mail that you have received this transmission and can open the attachment.

If you have any questions or any problems with this e-mail transmission, please feel free to call.

Sincerely,  
Travis Stills

--  
~~~~~  
Travis E. Stills  
Attorney at Law  
1831 Forest Avenue  
Durango, Colorado 81301  
stills@frontier.net  
(970)259-8046

This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is privileged, confidential and exempt from disclosure under applicable law as attorney-client and work-product confidential or otherwise confidential communications. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication or other use of a transmission received in error is strictly prohibited. If you have received this transmission in error, immediately notify me at the telephone number above.

~~~~~

2005 00624



**TRAVIS E. STILLS**

Attorney at Law

1831 Forest Avenue, Durango, Colorado 81301

970 259-8046

fax: (970) 247-2992 e-mail: [stills@frontier.net](mailto:stills@frontier.net)

---

September 16, 2005

Dennis Wallace  
U.S. Army Corps of Engineers  
Albuquerque District  
Freedom of Information Act Officer  
4101 Jefferson Plaza, NE  
Albuquerque, NM 87109  
[Dennis.A.Wallace@usace.army.mil](mailto:Dennis.A.Wallace@usace.army.mil)

Sandra L. Rayl  
US Army Corps of Engineers  
Colorado Service Office  
P.O. Box 25105  
Denver, Colorado 80225  
(303) 232-3403 (phone)  
(303) 232-1799 (fax)  
[sandy.l.rayl@usace.army.mil](mailto:sandy.l.rayl@usace.army.mil)

**VIA E-MAIL ATTACHMENT – CONFIRMATION REQUESTED  
AND CERTIFIED MAIL-RETURN RECEIPT REQUESTED**

**Re: FREEDOM OF INFORMATION ACT REQUEST:  
Wetlands Delineation at Proposed Village at Wolf Creek**

Dear Mr. Wallace and Ms. Rayl,

On behalf of Colorado Wild, the undersigned hereby submits this Freedom of Information Act ("FOIA") request pursuant to the requirements of 5 U.S.C. §552. Colorado Wild requests your written confirmation (preferably by e-mail) of the receipt of the e-mail version of this request.

Colorado Wild seeks categories of records regarding wetlands delineations related to the "Village at Wolf Creek" proposal in Southwest Colorado that is subject of a NEPA process led by the United States Forest Service. This request seeks records created after January 1, 2001 and is limited to those records not previously provided by your prompt April 16, 2004 response to Colorado Wild's previous request of April 13, 2004.

Colorado Wild hereby requests any and all agency records (including any records/documents in electronic form) which discuss, encourage, discourage, reference, analyze, evaluate, initiate

2005 00624

and/or otherwise concern fens, wetlands, possible wetlands, and/or wetlands delineations related to the proposed "Village at Wolf Creek."

The following provides details of the category of records Colorado Wild seeks, but should not be interpreted to limit the request to only these more specifically identified records:

- 1) All records regarding the need to conduct a wetlands delineation, created or obtained since January 1, 2001.
- 2) All agency records that carry out or document wetlands delineations carried out since January 1, 2001.
- 3) All agency records related to the following:
  - a. any and all records which discuss the Village at Wolf Creek and in particular wetlands;
  - b. any and all records which discuss or identify person(s) performing wetlands work, delineation, etc.;
  - c. any and all communications with person(s) performing wetlands work, delineation, etc.;
  - d. any and all records which specify dates during which wetlands work, delineation, etc. was performed;
  - e. any and all records which provide ecological zones, elevation, geographic/topographic features, hydrologic conditions, etc. of the Village at Wolf Creek property and/or adjacent Forest Service and private lands;
  - f. maps and any and all records that describe the location of wetlands ;
  - g. any and all records that discuss and/or provide wetlands classification/types, etc;
  - h. any and all records that discuss vegetation;
  - i. any and all records regarding fens;
  - j. any and all records which discuss hydrologic conditions including, but not limited to, flow conditions, soils, function/value of wetlands;
  - k. any and all records which discuss and/or determine the jurisdictional status of wetlands and basis for such determinations;
  - l. any and all records that describes wetlands measurements on the ground (e.g., GPS, survey of pin flags, etc.);
  - m. any and all records which discuss or estimate the temporary, seasonal, and/or permanent impacts of the Village at Wolf Creek on wetlands;
  - n. any and all records which discussion mitigation, mitigation measures/techniques, etc.;
  - o. any and all records that discuss permitting (including but not limited to section 404 permit type (i.e., individual, nationwide, etc.)) and the number of permits required;
  - p. any and all records that discuss water source(s) for the Village at Wolf Creek including, but not limited to water rights, etc.;
  - q. any and all records that discuss water quality issues related to the Village at Wolf Creek (e.g., increased roadway runoff, increased traction sand) and how those issues will be addressed
  - r. any and all records that discuss impacts to aquatic species and/or their habitat including but not limited to discussion of Rio Grande Cutthroat Trout;

- 4) Any and all records which discuss any work conducted on site, including but not limited to bore holes, and wetland impacts incurred;
- 5) Any and all records which discuss 404 permitting and any amendments to those permits;
- 6) Any and all records which discuss or reference prior wetland findings and any amendments to those findings;
- 7) Any and all communications with federal governmental entities regarding wetlands or wetlands delineations;
- 8) Any and all communications with non-federal government entities regarding wetlands or wetlands delineations including proponents of the Village at Wolf Creek including, but not limited to, Mr. Bob Honts, Mr. Red McCombs, and/or any agent, consultant, attorney, representative, lobbyist, etc for the Village at Wolf Creek;
- 9) Any and all communications with non-governmental entities regarding wetlands or wetlands delineations;
- 10) Any and all communications with the project proponents, agents, and/or consultants for any reason whatsoever since January 1, 2001;
- 11) Any and all communications with any elected or any other public official including but not limited to federal/state executive officers, congresspersons, senators, etc.

In order to assist in this request, but in no way limiting the agency's duty to make a full search for responsive records, Colorado Wild anticipates that the following agency offices, personnel, and/or departments are likely to have responsive records: **Houston Hannafious**, Former Office Chief, Durango, CO 81303; **Anita Culp**, Pueblo office; **David Malunchuk**, Albuquerque Office; and, **Lt. Colonel Todd A. Wang**, District Engineer, Albuquerque Office.

To aid Colorado Wild's use and understanding of the materials being requested, Colorado Wild requests that the Corps of Engineers provide an index (preferably chronological) that briefly identifies the materials being provided.

### POTENTIALLY EXEMPT MATERIALS

If you determine that portions of any records covered by this request are exempt from disclosure, please separate the exempt portions from the nonexempt portions and provide copies of the nonexempt portions. For any records that you determine to be exempt from release, please provide us with a specific description of the record or portion of the record along with a particularized description of the legal basis for withholding it. *See, Vaughn v. Rosen*, 484 F.2d 820, 827 (D.C. Cir. 1973), *cert. denied*, 415 U.S. 977 (1974).

Colorado Wild recognizes that the agency may invoke the deliberative process exemption (Exemption 5) as a basis for withholding certain records. The Supreme Court recently stated:

Exemption 5 protects from disclosure "inter-agency or intra-agency memorandums or letters which would not be available by law to a party other than an agency in litigation with the agency." 5 U. S. C. §552(b)(5). To qualify, a document must thus satisfy two conditions: its source must be a Government agency, and it must fall within the ambit of a privilege against discovery under judicial standards that would govern litigation against the agency that holds it.

Department of Interior v. Klamath Water Users Protective Association, 121 S. Ct. 1060, 1065 (2001).

To qualify for protection under Exemption 5, the first condition a record must satisfy is that "its source must be a Government agency." Klamath Water Users Protective Association, 121 S. Ct. 1060, 1065 (2001). In this context, the term "Government" means "Government of the United States." 5 U.S.C. § 551(1)(defining "agency" as "each authority of the Government of the United States").

The second requirement is that the records would be protected from disclosure by a legal privilege. Those privileges include the privilege for attorney work product and the so-called "deliberative process" privilege, which covers records reflecting advisory opinions, recommendations, and deliberations that are part of a process by which Government decisions and policies are formulated. NLRB v. Sears, Roebuck & Co., 421 U. S. 132, 150 (1975). The point of Exemption 5 is not to protect Government secrecy pure and simple, and the Exemption's first condition is no less important than the second; the communication must be "inter-agency or intra-agency," 5 U. S. C. §552(b)(5).

The purpose of this privilege is to "allow agencies freely to explore possibilities engage in internal debates, or play devil's advocate without fear of public scrutiny." Assembly of the State of California v. United States Department of Commerce, 968 F.2d 916, 920 (9th Cir. 1992).

In order for the privilege to apply, the document must be both "predecisional" and "deliberative." NLRB v. Sears, 421 U.S. at 150-54. A "predecisional" document is one "prepared in order to assist the agency decisionmaker in arriving at his decision." Renegotiation Board v. Grumman Aircraft Eng'g Corp., 421 U.S. 168, 184 (1975). A document is "deliberative" if it "exposes the mental processes of decision-makers." Dudman Communications Corp. v. Department of Air Force, 815 F.2d 1568 (D.C. Cir. 1987).

As a result, "communications containing purely factual material are not typically within the purview of Exemption 5." Julian v. Department of Justice, 806 F.2d 1411 (9th Cir. 1986), *aff'd*, 486 U.S. 1 (1988).

Colorado Wild anticipates that exemption 5 will apply to few, if any, records responsive to this request, if any at all. However, if the COE feels portions of the requested information deal with the pre-decisional "mental-processes" of the agency regarding the proposed "Village at Wolf Creek," the agency should attempt to redact any non-factual portions of the information requested above. In so doing, Colorado Wild requests that the agency provide a detailed summary and explanation of its redactions.

Additionally, the requested information, on the whole, does not fall within the ambit of FOIA Exemption 6 which deals with "personnel and medical files and similar files." 5 U.S.C. §552(b)(6). Obtaining knowledge about federal action and involvement in the proposed Village at Wolf Creek is clearly within the public interest. However, if the COE feels portions of such records (such as addresses and personal information of individuals) fall within this exemption,

the agency should redact any portions of the information requested above. In so doing, Colorado Wild requests that the agency provide a detailed summary and explanation of its redactions.

### **FEE WAIVER**

Pursuant to 5 U.S.C. §552(a)(4)(A)(iii), Colorado Wild is requesting a fee waiver for the records it is requesting. Colorado is a non-profit membership organization incorporated in the State of Colorado. Colorado Wild advocates for the protection of wildlife, water and the public land in and around the Rio Grand National Forest and is heavily involved in informing its members, the public, the press, local governments, and other organizations regarding the proposed "Village at Wolf Creek."

The information requested concerns the operation and activities of the COE, which in agency of the federal government. FOIA provides that agency records shall be provided without charge "if disclosure of the information is in the public interest because it is likely to contribute significantly to public understanding of the operations or activities of the government and is not primarily in the commercial interest of the requester." 5 U.S.C. 552(a) (4) (A) (iii).

This fee waiver provision was adopted to facilitate access to agency records by citizen "watchdog" organizations such as Colorado Wild. *See, Better Gov't Ass'n v. Department of State*, 780 F.2d 86, 88-89 (D.C. Cir.1987). For this reason, Congress intended that the provision be liberally construed in favor of waivers for noncommercial requesters. *McClellan Ecological Seepage Situation v. Carlucci*, 835 F.2d 1282, 1284 (9th Cir. 1987).

Colorado Wild is a statewide non-profit conservation organization dedicated to protecting, preserving, and restoring native plant and animal communities, and the biological diversity, of the Southern Rocky Mountains. Colorado Wild and its supporters have a long standing interest in the management of wildlife habitat in Colorado, including lands surrounding the proposed Village at Wolf Creek parcel.

Release of the records described in this request will primarily benefit the public and substantially contribute to its understanding of the government's policies and activities concerning management of public lands, wetlands, wildlife habitat, as well as policies concerning public recreation and environmental protection. Colorado Wild makes information concerning forest and wetlands management available to its members and members of the public through publications, public meetings, electronic and printed action alerts, press releases, phone calls, administrative appeals, and litigation, among other means. Through public comment, preparation of action alerts, press releases, public meetings, and other means, Colorado Wild will make the information obtained from this request available to its supporters and other groups.

Release of the information will empower supporters of Colorado Wild and members of the public to engage in public advocacy efforts to protect and conserve the resources of the forested high country of Colorado, and the wildlife species found there. Colorado Wild does not seek these records for commercial use.

Moreover, given the nature of the records, Colorado Wild will be reviewing the information requested intensively and extensively, and sharing such records with other citizens, community members, and local governments. Release of the records described in this FOIA request will therefore primarily benefit the public and substantially contribute to its understanding of the government's policies and activities concerning ski areas generally and the proposed "Village at Wolf Creek" in particular.

Summaries of newsworthy portions of the records will be made available to local Colorado media and will be disseminated via meeting, email, and internet website. No commercial gain will accrue to Colorado Wild or any other group or individual to whom such material will be distributed as a result of this request. Again, Colorado Wild is a non-profit, public interest education and advocacy organization. Colorado does not intend to use these records in any way for commercial gain.

If, for some reason, you should deny Colorado's request for a fee waiver, you should classify the organization as representatives of the news media, as that term is used in 5 USC § 552 (a)(4)(A)(ii)(II). Colorado Wild serves as an information clearinghouse for individuals, media outlets, and organizations seeking information on public land policies as they impact the Colorado and the region. Information will be distributed through periodic bulletins, web sites, press events, slide shows and tabling at fairs and other public events. Therefore, Colorado Wild is a representative of the news media. See, National Security Archives v. US Department of Defense, 880 F2d 1381, 1385 (D.C. Cir. 1989).

This request is submitted with the full expectation that such a waiver will be granted. However, if a waiver is not granted, please inform the undersigned of the cost of disclosing the above-described records if fees exceed \$50.00.

I look forward to your response within twenty (20) working days, as required by the FOIA. 5 U.S.C. §§552(a)(6)(B) and (a)(6)(C)(i). If a response is not received within twenty (20) working days, this request will be deemed denied.

If you have any comments or questions regarding this request, please do not hesitate to contact me at 970 259 8046 or [stills@frontier.net](mailto:stills@frontier.net).

Respectfully submitted on behalf of Colorado Wild,

*/s/Travis E. Stills*

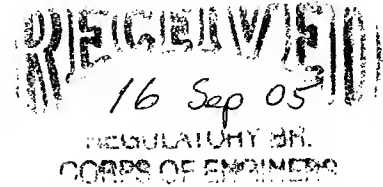
Travis E. Stills  
Attorney for Colorado Wild

cc: Office Chief  
Army Corps of Engineers  
278 Sawyer Dr. #1  
Durango, CO 81303

Entered 12/13/2005

Howard W. Cox  
7532 CR 13  
Del Norte, CO 81132

Lt. Colonel Todd A. Wang  
District Engineer  
United States Army Corps of Engineers  
4101 Jefferson Plaza NE  
Albuquerque, NM 87109-3435



Dear Mr. Wang,

This is a letter of concern regarding the responsibilities of the Army Corp of Engineers to ensure protection of sensitive fens wetlands at the site of the planned "Village at Wolf Creek" in Mineral County, CO.

The developer of this project is currently preparing a new wetland delineation. It is critically important that this mapping be of the highest quality and completeness. I urge the Corp to do everything in their power to insure the accuracy of the delineation including using outside expertise to protect the public interest in this matter.

Contrary to the claims of the developer, it is impossible to imagine the scale of proposed development at the site not impacting the sensitive hydrology of the fens through sedimentation and alterations in drainage from high density construction, road building, etc. These wetlands function to hold water for year round water supply for critical threatened and endangered Rio Grande cutthroat trout habitat.

It is imperative that the Corps require an individual 404 permit for this process to insure public input and transparency to this highly visible and controversial project. It is the duty of the Corps to protect the natural resources and public interest.

Thank you in advance for your attention to this matter.

Sincerely,

Howard Cox

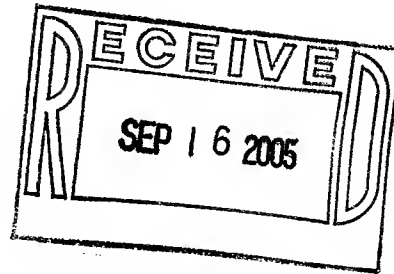
Cc: Senator Ken Salazar  
Senator Wayne Allard  
Representative John Salazar  
Representative Mark Udall

2005 00624





THE VILLAGE AT  
**WOLF CREEK**™



September 15, 2005

Mrs. Anita Culp  
Biologist  
US Army Corps of Engineers  
Southern Colorado Project Office  
720 North Main St., Room 205  
Pueblo, CO 81003-3046

Dear Mrs. Culp:

As per our several telephone discussions, I understand you, the Village wetlands biologists and Sam Brown, Village Land Use Planner, will be meeting on the Mountain at 12:30 p.m. on Monday, September 19, 2005, to review the proposed revised wetlands certification map, as prepared on a draft basis by Western Ecological Systems. I understand you have received a copy of this Preliminary map. As there are some new and additional wetlands areas shown on the proposed map, in areas previously not so designated, Sam Brown is also sending you a copy of the Mineral County Land Use map with some key impacted land uses increased, for our discussion next week. My plan is to join you and this group for dinner Monday night, at about 7:00 p.m., at Rock Away Inn, to discuss the results of the site visit. I will call you about some impacts the new map, if approved, would have on our development plan.

Also attached for your review and our discussion is a draft Arcadis prepared "Conceptual Wetlands Projection and Ground Water Monitoring Plan" which we hope to gain your input on during your visit to Wolf Creek and South Fork. Mrs. Culp, I thank you very much for your direct involvement and look forward to seeing you on September 19, 2005.

I will be calling you prior to this time.

Sincerely,



Bob Honts

President/CEO

Village at Wolf Creek Development Corporation

Managing Venturer

Leavell McCombs Joint Venture

2005 00624



Infrastructure, buildings, environment

**Mr. Bob Honts**  
President and CEO  
Managing Venturer  
The Village at Wolf Creek  
1402 San Antonio, Suite 102  
Austin, Texas 78701

Subject:

**The Village at Wolf Creek  
Conceptual Wetlands Protection and Groundwater Monitoring Plan**

Dear Mr. Honts:

ARCADIS G&M, Inc. (ARCADIS) has prepared the attached Draft Conceptual Wetlands Protection and Groundwater Monitoring Program to assist in project planning and discussions with the U.S. Army Corps of Engineers (USACE). The plan provides an overview of the site geology and hydrology, along with a brief description of the development plan the wetlands protection plan.

Please review and comment as you feel appropriate. Following your review we can discuss the plan for meeting with USACE.

Sincerely,

ARCADIS G&M, Inc.

**Donald R. Ganser, PG**  
Senior Hydrogeologist

cc: Sam Brown

ARCADIS G&M, Inc.

630 Plaza Drive

Suite 200

Highlands Ranch, CO 80129

Tel 720.344.3500

Fax 720.344.3535

[www.arcadis-us.com](http://www.arcadis-us.com)

ENVIRONMENTAL

Date:

**24 August 2005**

Contact:

**Donald R. Ganser**

Phone:

**720-344-3774**

Email:

**[dganser@arcadis-us.com](mailto:dganser@arcadis-us.com)**

Our ref:

**CO001063.0001**

Part of a bigger picture

## DRAFT CONCEPTUAL WETLANDS PROTECTION AND GROUNDWATER MONITORING PLAN

### Background

The proposed Village at Wolf Creek (The Village) is located on approximately 320 acres of land adjacent to the Wolf Creek Ski Area in Mineral County, 30 miles northeast of Pagosa Springs, Colorado. The site location is shown on the attached Figure 1. The site encompasses a series of wetlands in an area identified as Alberta Park. The Village will include commercial structures (i.e., lodges and shops), and multi family and single family residential properties supported by an infrastructure consisting of water, wastewater, and electric utilities. The Village will be developed in several phases. The first phase of development is focused on infrastructure including the construction of the water intake structures and storage tank, wastewater treatment facility and parking structure. These facilities are located in the northwest portion of the site.

The objective of the Conceptual Wetlands Protection and Groundwater Monitoring Plan is to prevent impacts to the wetlands from both construction (short term impacts) and operations/maintenance (long term impacts). No filling of, or construction in, the mapped wetland areas will be performed. However, construction of buildings upgradient may intercept the natural groundwater flow that nourishes the wetland. This Plan identifies the potential impacts and proposes mitigation measures to maintain natural groundwater flow to the wetlands. It also recommends a groundwater monitoring program to evaluate any changes to groundwater elevations as a result of development. Impacts identified by the monitoring program will be mitigated by re-establishing groundwater flow to the impacted area.

### Site Geology/Hydrogeology

The proposed Village at Wolf Creek is located in the San Juan Mountains immediately southeast of the top of Wolf Creek pass adjacent to the Wolf Creek Ski Area at an elevation of approximately 10,400 feet. High altitude alpine vegetation, conifer trees and wetlands dominate the site. The continental divide lies approximately  $\frac{3}{4}$  mile to the west. The geology at the site consists of colluvium and glacial till overlying ash flow tuffs of the San Juan volcanics (Tertiary-Age Treasure Mountain Tuff). Twelve geotechnical borings were drilled at the site in the spring of 2005 and encountered clayey sand with gravel and sandy clay with gravel overlying volcanic tuff bedrock at depths ranging from 4 feet to in excess of 75 feet (Kumar and Associates, 2005).

Seven two inch diameter PVC monitoring wells were installed in selected borings to allow for hydraulic conductivity testing and continued groundwater monitoring. Depth to groundwater in the seven wells ranged from 1.3 to 20.3 feet below ground surface in June 2005. In July 2005 the depth to groundwater ranged from 1.8 to 22.1 feet. Groundwater flows from the higher elevations at the west end of the site towards the wetlands of Alberta Park to the east. The deepest groundwater is in the western portion of the site adjacent to the Wolf Creek Ski Area and the shallowest groundwater is near the wetlands.

Hydraulic conductivity tests were performed in five of the seven monitoring wells using the slug test method. The data was analyzed by the methods described by Bouwer and Rice. Values of hydraulic conductivity in colluvium ranged from 0.002 to 0.093 feet per day ( $7.1 \times 10^{-7}$  to  $3.3 \times 10^{-5}$  cm/sec) averaging 0.038 feet per day ( $1.3 \times 10^{-5}$  cm/sec). One monitoring well (MW-5) was completed across the colluvium/volcanic tuff contact and had the highest hydraulic conductivity value of 0.364 feet per day ( $1.3 \times 10^{-4}$  cm/sec). These values compare favorably with data collected by the Colorado Geological Survey (CGS) at the CDOT Maintenance Facility to the north of the site across Highway 160. The CGS performed three tests in colluvium which resulted in hydraulic conductivity values ranging from 0.053 to 0.065 feet per day ( $1.9 \times 10^{-5}$  to  $2.3 \times 10^{-5}$  cm/sec) averaging 0.06 feet per day ( $2.1 \times 10^{-5}$  cm/sec).

### **Proposed Phase I Development Plan**

The proposed Phase I development Plan consists of water storage tanks with capacities between 6 and 12 million gallons, a parking structure up to ten levels, a water treatment facility, a wastewater treatment facility, an electric generator building, and a visitor center building. The locations of these features are shown on Figure 2. The parking structure and water tanks will be constructed in phases, with the first phase to include the southern portion of the parking structure constructed over a 6 million gallon water storage tank. The water treatment facility will be located on the first parking level between the currently planned and future water storage tank locations. The wastewater treatment facility and the electric generator building are proposed as one story slab on grade structures with no significant below-grade components. The visitor center is planned to be a two-story structure partially built into the slope with a lower level walk-out.

Construction of these facilities will be subject to an Erosion Control Plan, a Storm Water Management Plan, and, if necessary, a Construction Dewatering Permit. The proposed excavation for the water storage tank/parking garage and to a much lesser extent, the visitor center may intercept natural groundwater flow to the wetlands. Together with the Erosion Control Plan and Storm Water Management Plan, this Wetlands Protection Plan is being developed to maintain the natural groundwater flows to the wetlands, as well as protect them from siltation and unnatural runoff from storm water events during Phase I construction.

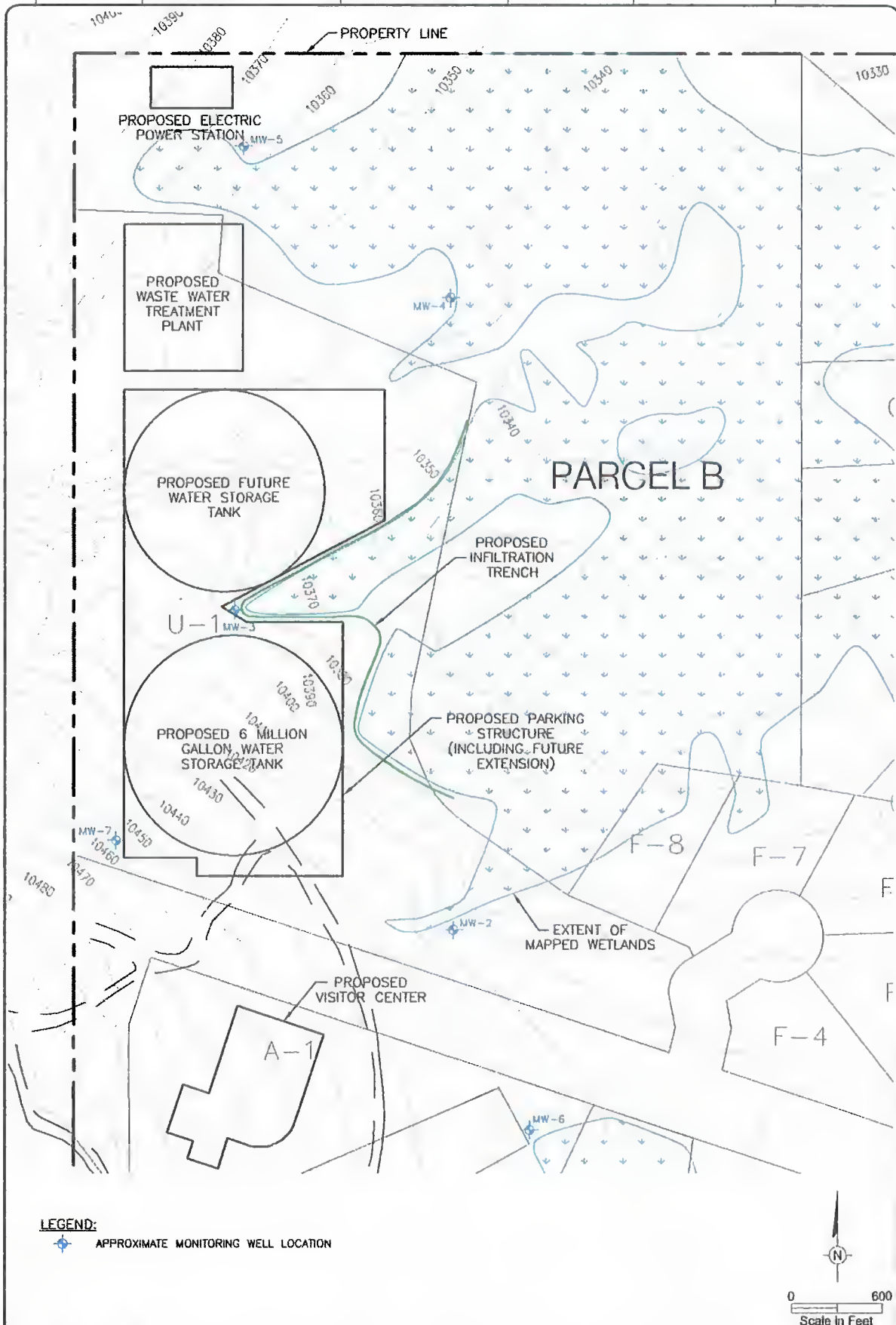
### **Proposed Wetland Protection Plan**

To maintain the natural groundwater flow to the wetlands, excavations made during construction will collect groundwater either through pumping a passive drainage to a sump located at the up-gradient end of the excavation as shown on Figure 3. Preliminary hydraulic conductivity data collected indicates that groundwater inflows to excavations will be on the order of a few gallons per minute and can be handled with a passive drainage system. The sump will be piped underground to an infiltration trench excavated immediately up-gradient of the wetland area (Figure 2). The infiltration trench will be excavated to a depth below the local frost line. Figure 3 includes a cross-section of the proposed infiltration trench. The trench will be

segmented and constructed to be horizontally level so the water will be discharged evenly throughout the trench.

Monitoring of the groundwater levels will be performed bi-weekly during the growing season (June through September) and quarterly outside of the growing season to evaluate the natural seasonal fluctuations in groundwater level as well as any potential impacts from construction activities.

Buildings that will have foundations below the seasonally high groundwater levels will have drainage systems that will drain to a sump and then through piping to the infiltration trenches. All groundwater will be re-directed to the down-gradient wetlands to maintain natural groundwater flow.



**LEGEND:**

APPROXIMATE MONITORING WELL LOCATION

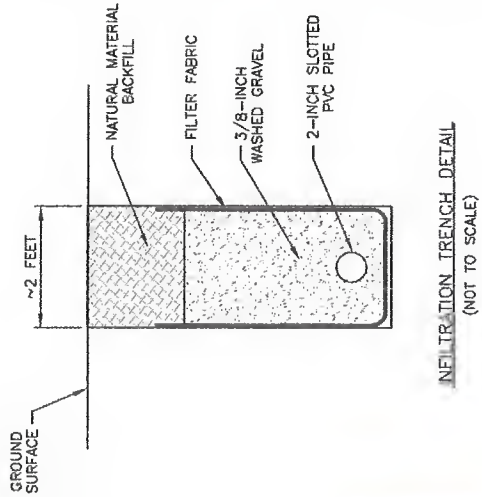
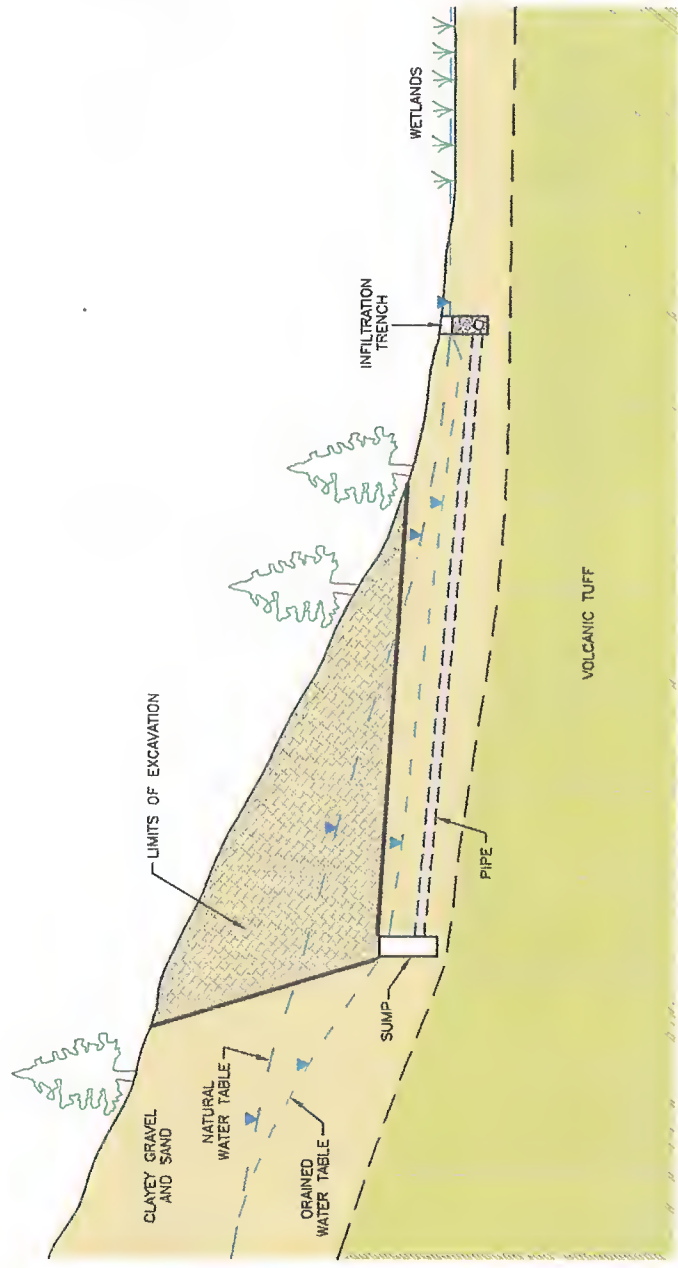


**Phase I Development Plan**

THE VILLAGE AT WOLF CREEK  
Wolf Creek, Colorado

FIGURE

**2**



INFILTRATION TRENCH DETAIL  
(NOT TO SCALE)



Conceptual Wetlands Protection Plan

THE VILLAGE AT WOLF CREEK  
Wolf Creek, Colorado



DRAFTER: JKC

APPROVED: APPROVED

CHECKED: CHECKED

DRAWING: DRAWING

PRJCT NO.: PRJCT NO.

DWG DATE: DWG DATE



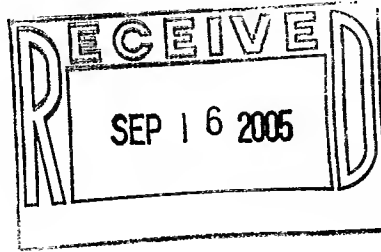
Site Location  
The Village at Wolf Creek  
Mineral County, Colorado

FIGURE

1

SB&Co.

Sam Brown & Co.  
architecture & planning



15 September, 05

Mrs. Anita Culp  
Biologist  
US Army Corps of Engineers  
Southern Colorado Project Office  
720 North Main St. Room 205  
Pueblo, CO 81003-3046

Dear Mrs. Culp:

Attached please find a copy of the Draft Wetland Map prepared by Western Ecological Resources, Inc with The Village at Wolf Creek land use indicated.

Please note that the new wetlands shown have major impact on the following lots:

Lot E-1  
Lot C-1  
And Lot L-1

I will be on site Monday the 19<sup>th</sup> at 12:30 PM to review the proposed revised wetland certification map.

Sincerely,

A handwritten signature in black ink, appearing to be "S. Brown", written over the word "Sincerely,".

Sam Brown

7744 Valmont Road  
Boulder, CO 80301  
303.666.0064 O  
303.666.0065 F  
303.588.1500 Cell  
[sbc1248@aol.com](mailto:sbc1248@aol.com)

2005 00624



Figure 3.  
Draft Wetland Map  
& Development Plan  
Village at Wolf Creek

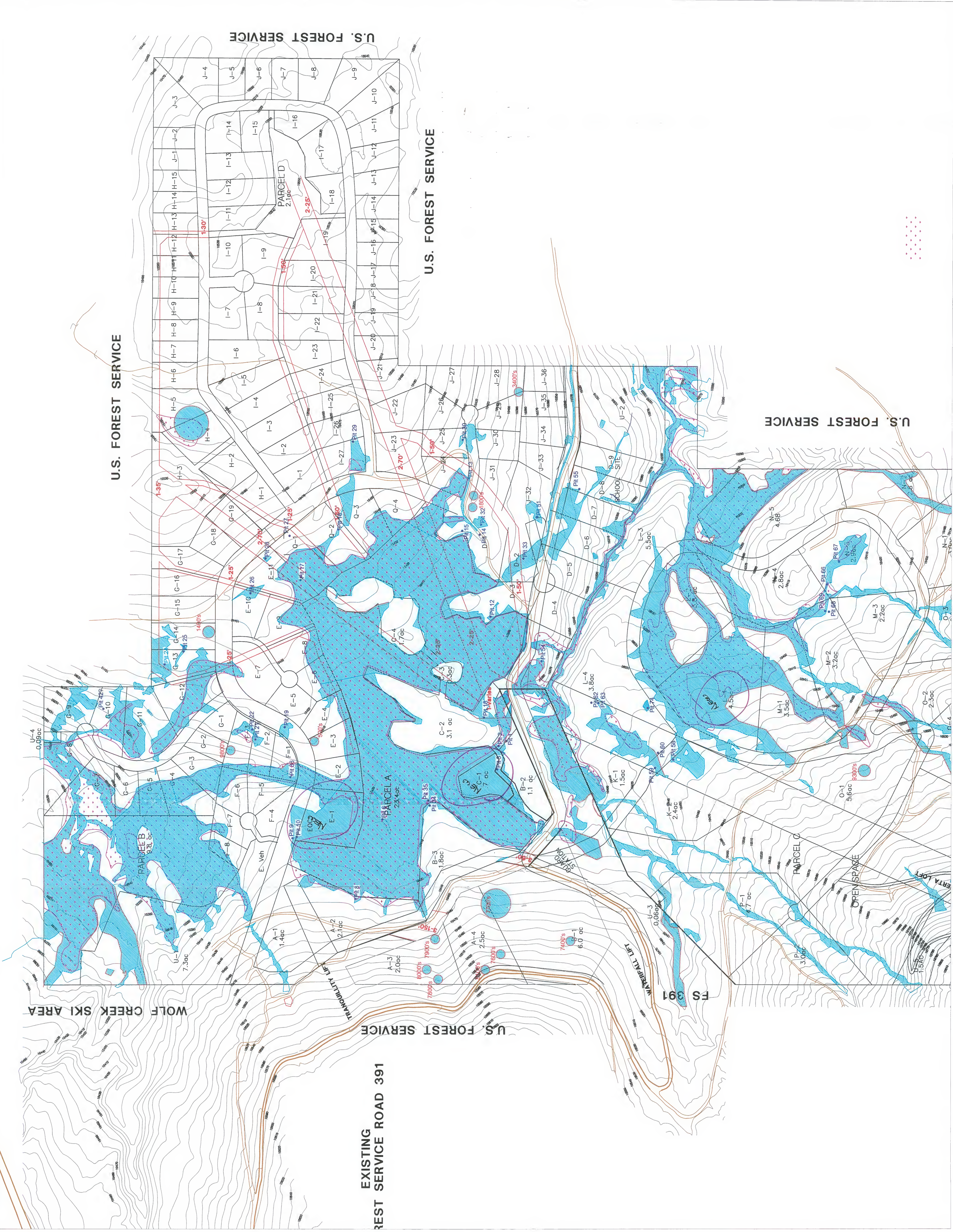
Legend:

- Property Boundary
- Wetlands (Surveyed)
- Wetlands (Not Surveyed)
- Pit 15 - Soil Pit
- Existing Roads

Note: Not all wetland boundaries have been surveyed to date. Likewise, some soil pits have yet to be indicated on the map.



Date: September 13, 2005  
Scale: 1 in = 200 ft  
Contour Interval = 10 ft





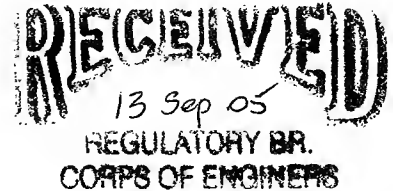
Envea 12/13/2005

Durango Reg Ofc

James Rufus Lincoln, Jr.  
174 Teal Circle  
Pagosa Springs, CO 81147  
970-731-0774

September 7, 2005

Lt. Colonel Todd A. Wang  
District Engineer  
United States Army Corps of Engineers  
4101 Jefferson Plaza NE  
Albuquerque, NM 87109-3435



Re: The proposed Village at Wolf Creek development, Mineral County, Colorado

Greetings:

This letter expresses concern over the subject proposed development in categories which are important to the Corps of Engineers and to the resources which you protect.

In particular, the developer of the project maintains that his project will have no effect on the wetlands at the site and that his project is immune to the requirement for a 404 permit. Anyone who has visited the site and seen the wetlands delineation in process this summer would be more than skeptical about this position. Have you or your staff visited the site this summer?

As you well know, the site is the headwater for the Rio Grande River and it is composed of fens which hold runoff and gradually feed the river with sediment-free water over the course of a year. Any disruption would be disastrous and irreparable.

This is a request that the Corps of Engineers fulfill its role to protect wetlands, especially in this precarious location. Please make an on site evaluation and determine that the individual (not nationwide) 404 permit process be required and that public participation should be included.

Thank you for your attention to this crucial situation.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jim Lincoln".

James Rufus Lincoln, Jr.

Cc (by FAX): Ken Salazar, Wayne Allard, John Salazar, Mark Udall, Mark Larson

2005 00624

## ***San Luis Valley Wetlands Focus Area Committee***



September 1, 2005

Lt. Colonel Todd A. Wang  
District Engineer  
United States Army Corps of Engineers  
4101 Jefferson Plaza NE  
Albuquerque, NM 87109-3435

Dear Lt. Colonel Wang,

This letter is to express our concerns about the Army Corps of Engineers' role in regards to proposed Village at Wolf Creek at Wolf Creek Pass in the San Juan Mountains of southern Colorado. For your information, the San Luis Valley Wetlands Focus Area Committee is a group of landowners, land and wildlife management agencies (state and federal), and non-profit conservation organizations working for the protection and restoration of wetlands in Colorado's Rio Grande basin.

We have been actively tracking and addressing the potential development at the site, which is literally at the headwaters of our water supply for the 200,000 acres of internationally important wetlands in the San Luis Valley. Your officer in the Durango office, Houston Hannafious was very helpful while he was in the service. We have offered our members and the general public two site visits, in both 2004 and 2005, in conjunction with the US Forest Service. While invited, no ACE personnel were able to join us. Both tours were well attended by a range of ecologists, soil scientists, wildlife officers, elected officials, and interested citizens. Each time, it was evident that the wetlands at the site are important ecologically and hydrologically for the Rio Grande and thus deserve the highest degree of protection possible.

Likewise, it is very difficult for anyone who has visited the site to understand how the proposed development could occur without impacting the wetlands profoundly. It seems obvious that there would be both direct increase in sedimentation caused by construction and access to the isolated elevations surrounded by wetlands upon which 220,000 square feet of commercial building is planned. Likewise, road building as well as the condominiums and homes to be built on the upland slopes directly above the wetlands would cause

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sedimentation (a storm water expert recently informed me that one year of construction results in approximately 400 years worth of erosion).

Construction of roads, drains and buildings would also intercept and divert ground water causing alteration of sheet flow that would clearly imperil the wetlands, including the rare, high altitude fens that are indicated on the 1999 wetlands map that we received from the Corps in response to a FOIA request. It is our understanding that the US Fish and Wildlife Service designates such fens as "aquatic resources of national importance." We continue to advocate for an in depth hydrological study of the site prior to any construction being allowed and should it proceed, that the Corps require a sophisticated design for the site to maintain the hydrology.

Our current primary concern is in regards to the new wetland delineation that is being prepared for the developers, Mr. Red McCombs and Mr. Bob Honts. We believe that it is of the utmost importance that this mapping be of the highest quality and completeness possible. As Mr. Honts has repeatedly declared that their development will NOT impact the wetlands on the site, it seems logical that he too would want the most accurate and credible delineation in order to possibly achieve that outcome.

We are deeply concerned that this is not being done and are writing to you to urge that you and your officers do everything in their power to insure the quality and reliability of the mapping that is being done currently, including using outside expertise to verify the delineation on behalf of the public interest. We are especially concerned that wetlands that may be less obvious, under the forest canopy and on the steeper north facing slopes, are carefully identified and included on the map. Naturally, these are equally important areas to the open meadows and are integral to the hydrology of the site.

Our concern is not unfounded, as Mr. Honts has, in our view, misrepresented the Corps in the past. On several occasions, he cited the August 6, 2004 letter from Mr. Hannafious stating that they were in full compliance with Corps regulations. However when I asked Mr. Hannafious about the letter, he stated that it was "not worth the paper it was printed on" and that of course the developers were in compliance, as they had not yet done anything. He further informed me that despite requests on his part and promises on Mr. Honts' part, he had not received any current plans for the Village and that the latest plan he had was from 1999. We respectfully request the Corps consider this track record and be especially diligent in its oversight of this project.

Additionally, we request that should the developer finally apply for a 404 permit, as has been recommended by the Corps itself (per communication with Mr. Hannafious) and by every federal agency representative with whom I have discussed this issue, that the Corps require an individual and not allow a nation-wide permit for this project. With the high degree of visibility and controversy regarding this proposed development, we believe that the Corps should allow public input on this process that an individual permit would provide. To bypass this process would, in our view, not fulfill the Corps' duty to the public's interest and natural resources. It is my understanding that the Colorado Department of Public Health and Environment has also written the Corps requesting that an individual permit be required.

The New York Times editorial this morning asked in regards to the role of wetlands on our southern coastal areas: "Why were developers permitted to destroy wetlands and barrier islands that could have held back the hurricane's surge?"

(<http://www.nytimes.com/2005/09/01/opinion/01thu1.html>). We ask that the Corps fulfill its role here in Colorado to protect and sustain the important wetlands at the very headwaters of the Rio Grande. Their ecological functions in holding water for season-long water supply, cleansing water before it released into the downstream flows for domestic, agricultural and recreational uses (including the very popular reservoir just below the site), and supporting the area's important wildlife (including the endangered cut throat trout and lynx) deserve to be protected and the developer should be required to care for the public resources to the highest degree possible, should their project ever proceed to construction.

Our committee will continue to watch developments regarding the proposed Village at Wolf Creek and I repeat our standing offer to pursue a conservation option for the purchase of the site for permanent protection, should that opportunity ever arise.

Thank you for your consideration of this request. I will look forward to your response and assistance in insuring a healthy future for these vital wetlands.

Sincerely,



Rio de la Vista  
Coordinator  
San Luis Valley Wetlands Focus Area Committee  
Box 777  
Monte Vista, Colorado 81144

Cc: Michael Blenden, Chairman, SLV WFAC, USFWS Project Manager, Alamosa, Baca and  
Monte Vista National Wildlife Refuge  
Senator Ken Salazar  
Senator Wayne Allard  
Congressman John Salazar  
Congressman Mark Udall





## THE VILLAGE AT WOLF CREEK™

June 14, 2005

Mr. Houston Hannafious  
US Corps of Engineers  
Durango, CO

Dear Mr. Hannafious:

First, I thank you for taking time to visit the Village at Wolf Creek and to observe the geo-technical drill sites just completed. As you know, many of these thirteen drill sites are to be utilized as on-going wetlands monitoring data about the wetlands well before and during the future construction and development period. Sam Brown, Dusty Hicks and I were pleased to hear your verbal approvals of this initial work effort and to hear your positive reaction to the Western Ecosystem and Arcadis resumes and obvious past extensive experience in the field of biology, Mountain Ecological Systems, and wetlands hydrologist and engineering.

As you know, the Village has retained these terms to recommend, supervise, and oversee the Village pre-development and development activities, both to assist in avoiding any direct wetlands destruction, to assure a lack of negative impact from any uplands excavation, development or construction activity and to enact measures that would actually enhance and improve the wetlands. We appreciate and welcome your valuable counsel.

Of course, we are only in the beginning stages of the monitoring pre-development and development stages of the Village.

We will continue to work with the US Corps of Engineers as our plans materialize.

Thank you again for your time and interest in the Village at Wolf Creek. Good luck in your prospective retirement.

Sincerely,

Bob Honts  
President/CEO  
Village at Wolf Creek  
Development Corporation  
Managing Venturer  
Leavell McCombs Joint Venture

cc: Sam Brown  
Dusty Hicks  
David Malish

2005 00624

13 Jun 2005 - Met with Bob Honts at the proposed Village at Wolf Creek site, along with Sam Brown, an architectural consultant. My main purpose in the visit was to look at work performed the week of June 1st, which involved the installation of approximately 6 monitoring wells located upgraded from wetlands. Also, I was prompted to look at the work after getting a visit from Jeff Burman, of Colorado Wild, on June 2, 2005. Mr. Berman was concerned that the monitoring well installation had created excessive introduction of sediment laden runoff into wetlands. My inspection revealed that little or no sediment had entered adjacent wetlands. Because of the large amount of snow that was still present at the site the previous week, the individuals drilling the monitoring wells were able to drive their tracked vehicle over the snow without disturbing vegetation or soil beneath. One 10 foot section of the bank of Pass Creek had been damaged by the equipment. I informed Mr. Honts and his contractors the site needs some restoration work by placing a large boulder and to place some native grass seed at the location to insure quick revegetation of the bare-mineral soil streambank. They agreed to do this work right away. The disturbance is minor, but Mr. Honts agreed to correct the problem. I informed him that this remedial work would have been required pursuant to the general conditions of our NWPs. I informed him that a letter from our office would not be necessary at this time. If on inspection, the work is not performed, then a letter of non-compliance would be issued. I will also give Jeff Berman a call to inform him of my findings. I was informed that little work would take place at the village site the remainder of this year, but in 2006, they planned on doing substantial work.

H. Hannafious

*I CALLED JEFF BERMAN OF COLORADO WILD ON 6/17/05 AND TOLD HIM THE MONITORING WELLS INSTALLED AT PROPOSED "VILLAGE AT WOLF CREEK" DID NOT REPRESENT A SECTION 404 VIOLATION.*

*H. HANNAFIOUS*

# SB&Co.

Sam Brown & Co.  
architecture & planning

12 June, 05

Bob Honts  
The Village at Wolf Creek  
1402 San Antonio, Suite 102  
Austin, TX 78701

RE: Wetlands Protection

Dear Bob:

Attached please find a copy of portions of the Western Ecological Resource, Inc and Arcadis Proposal for wetland protection.

Western Ecological Resources, Inc. is headed by David Johnson, Ecologist. Western Ecological Resources is a professional ecology consulting firm with capabilities in the areas of vegetation, wetlands, reclamation, soils and wildlife. They have extensive experience with the ecology of all major ecosystem types within Colorado and the Rocky Mountain West.

Some of the services they will provide are as follows:

1. Wetland Delineation
2. Development without intrusion into Wetlands
3. Wetland Protection Plan
4. Wetland Vegetation Monitoring

Arcadis will be providing Hydrogeological Characterization and Monitoring Program. Don Ganser heads Arcadis. Don has over 30 experience in environmental and geotechnical consulting. His experience includes water resource and impact evaluations in Colorado, New Mexico, Wyoming, Florida, New York and New Jersey.

Some of the services they will provide are as follows:

1. Site Hydrogeologic Characterization Report
2. Semi-Annual Groundwater Monitoring Reports

Bob, I believe with the assistance of both Johnson and Ganser we will have a complete understanding of the Village wetlands and the best possible protection plan. Please contact me if you need additional information.

Respectfully submitted,

  
Sam Brown

7744 Valmont Road  
Boulder, CO 80301  
303.666.0064 O  
303.666.0065 F  
303.588.1500 Cell  
[sbcl248@aol.com](mailto:sbcl248@aol.com)

2005 00624

64103

## **Western Ecological Resource, Inc. Statement of Qualification**

Western Ecological Resource, Inc. (WER) is a professional ecology consulting firm with capabilities in the areas of vegetation, wetlands, reclamation, soils and wildlife. WER is located in Boulder, Colorado but has provided services to clients in Colorado and throughout the Rocky Mountain West since 1978. WER provides ecological services to the recreation/resort, real estate, mining, electric utility, transportation, water development industries, as well as to local and state government and to federal agencies.

We have extensive experience with the ecology of all major ecosystem types within Colorado and the Rocky Mountain West. Our experience includes work in the desert, plains, montane, and subalpine and alpine ecosystems. This experience includes vegetation type identification and mapping, qualitative and qualitative plant community inventory and description, productivity studies, and floristic inventories. We also develop plans for the enhancement and restoration of disturbed ecosystems, conduct weed assessments, develop weed management program and complete wildfire hazard assessments.

WER has an extensive and comprehensive background in wetland work. Our services include: identification, delineation and description of wetlands; hydric soil identification and mapping; mapping of histisols; wetland hydrology analysis; groundwater hydrology studies; evaluation of wetland functions and values; coordination of projects with the U.S. Army Corps of Engineers and other regulatory agencies; wetland permitting for both nationwide and individual permits, preparation of mitigation plans for numerous types of wetlands; wetland creation, monitoring and maintenance; development of performance standards for wetland creations; and riparian habitat restorations.

WER personnel are knowledgeable of the threatened and endangered species issues in Colorado and elsewhere in the Rocky Mountain West. WER conducts studies for threatened and endangered species, prepares habitat assessments, as well as, biological assessment for these species. Species we frequently work with include Ute ladies' tresses orchid (*Spiranthes diluvialis*), Prebles meadow jumping mouse (*Zapus hudsonius preblei*), Boreal toad (*Bufo boreas boreas*), and the Colorado lynx (*Lynx canadensis*). Personnel at WER are considered an authority on Harrington penstemon (*Penstemon harringtonii*), a state sensitive plant of big sagebrush habitat, in Colorado. WER personnel discovered a new plant, Penland penstemon (*Penstemon penlandii*) in western Colorado, which is now classified as a federally endangered plant.

We have an extensive background in reclamation including preparation of plans for the restoration of numerous types of native plant communities, including native prairies, riparian habitat, as well as the vegetation types of montane, subalpine and alpine biomes.

Additionally, we have a background in green house and test plot studies, and monitoring the success of reclaimed areas.

Our soils background includes mapping, description and classification of native soils; wetland soil identification and classification; development of soils criteria for reclamation; assessment of soils suitable for reclamation; and calculation of topsoil volumes.

Our wildlife studies include wildlife habitat descriptions, qualitative and quantitative inventories, assessment of potential impacts of projects, development of mitigation plans, and assessments for threatened, endangered and sensitive species.

WER has extensive experience in the preparation of Environmental Impact Statements and Environmental Assessments for numerous project types including resource developments, federal land exchanges, electric transmission lines and transportation systems. We have prepared Biological Assessments for many of the threatened and endangered species of the Rocky Mountain West and have an extensive background in preparing Environmental Impact Reports for Eagle County, Colorado.

**DAVID L. JOHNSON**  
**ECOLOGIST**

**PLANT**

**Education**

B.S., Mathematics, Rio Grande College, 1964  
M.S., Environmental Toxicology, University of Utah, 1968  
M.S., Plant Ecology, University of Colorado, 1973

**Experience**

During his graduate studies in Colorado and Utah, Mr. Johnson was involved in a variety of research projects, generally in the area of applied plant ecology. Examples include inventories and impact assessments/development constraints of mountain valleys near Steamboat Springs; revegetation studies of pipelines in tundra ecosystems near Rollins and Fremont passes, Colorado; evaluations of air pollutant effects on vegetation, and an identification, mapping, and quantitative description of wetlands ecosystems along the Roaring Fork River near Aspen, Colorado.

After leaving graduate school, Mr. Johnson worked with a national transportation engineering firm for three years. He was responsible for producing the ecology and natural environmental section of EIS's for projects in Colorado, and elsewhere in the U.S.. Major projects include the proposed West Georgia Tollway, Delaware Turnpike Extension, Anacostal Freeway in Washington, D.C., and Denver's planned Mass Transportation System.

Since establishing Western Ecological Resource, Inc. in 1978, Mr. Johnson has conducted and/or managed over 400 ecological studies throughout the Rocky Mountain West and elsewhere in the United States. These studies have been produced for energy and mineral mines, reservoirs, sand and gravel excavations, hazardous waste sites, electric transmission line routings, power plant sightings, recreation/resort developments, housing projects, transportation systems and numerous other concerns.

Mr. Johnson has been the principal investigator and/or project manager for about 90 baseline vegetation studies for permitting resource developments. Each of these projects required the identification and mapping of vegetation types; the quantitative assessment of vegetation cover, herbaceous production, and woody plant density; and threatened and endangered plant species surveys. Examples of projects include: Conoco's proposed uranium mines and mills in Colorado and New Mexico; Aberford Minerals' gold project near Empire, Colorado; Pegasus Gold Corporation's gold mine near Winnemucca, Nevada; Amoco's oil field in south central Wyoming; and Union Mines' gold project near Platoro, Colorado. These projects have provided experience with the ecosystem types of the Rocky Mountains and knowledge of mining and milling and the permit process.

Mr. Johnson has an extensive background in reclamation including preparation of reclamation plans for hard rock mines, abandoned coal mines, and active energy developments. Additionally, he has conducted greenhouse and test plot studies, monitored the success of reclaimed areas, and physically implemented numerous reclamation plans. For two years he worked with the State of Colorado on the Abandoned Mined Lands Program. He prepared reclamation plans and supervised implementation of the plans.



**DAVID L. JOHNSON**  
**PAGE 2**

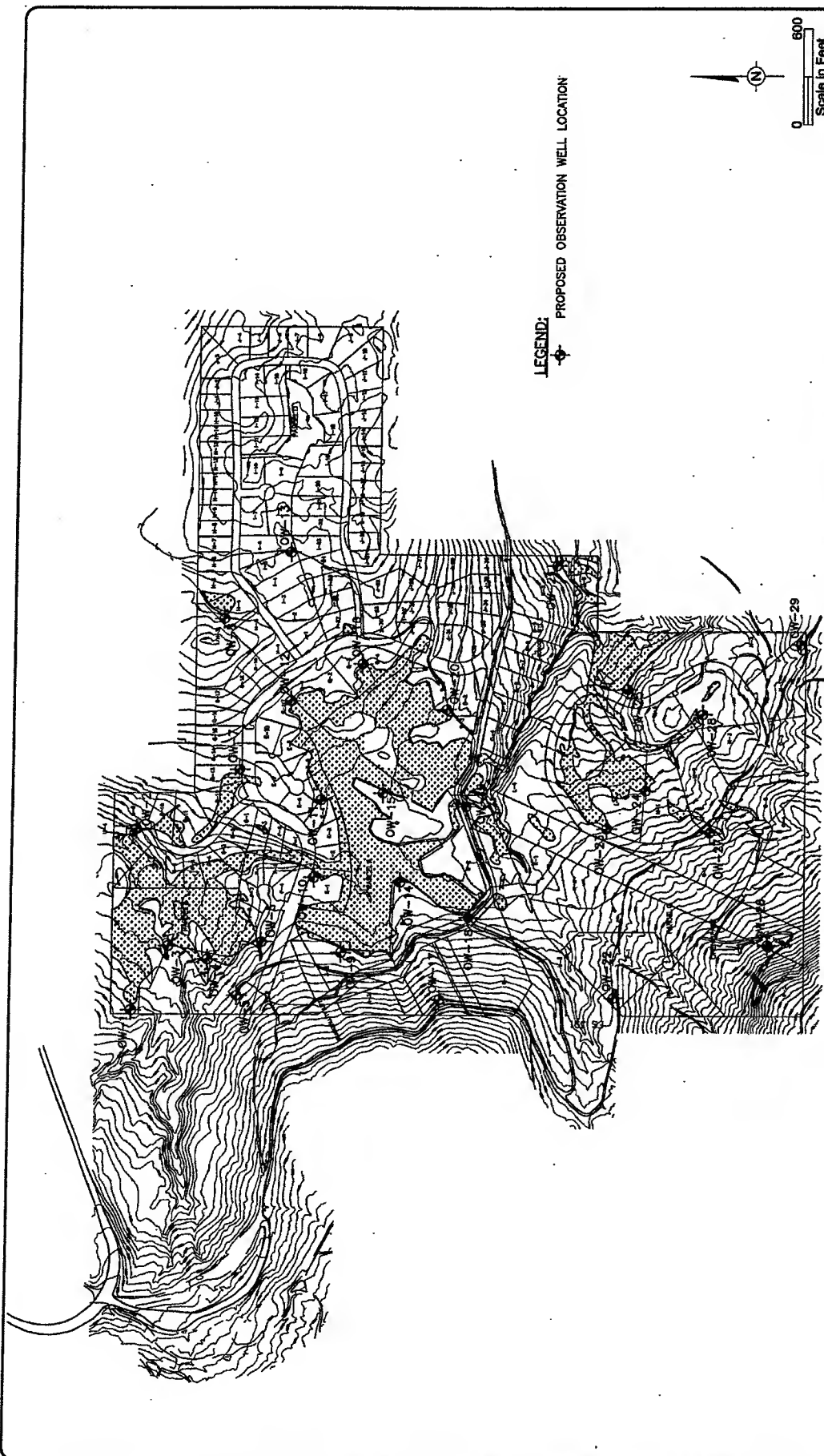
Over the past 30 years, Mr. Johnson has worked extensively with state and federal regulatory agencies. He coordinated production of an environmental impact statement (EIS) for Western Area Power Administration's 30-mile long transmission line, extending from the Loveland area to Longmont, Colorado. He completed an evaluation of revegetation technology on western coal mines for the Office of Technology Assessment, U.S. Congress. Mr. Johnson was a part of a consultant group that worked directly for the U.S. Bureau of Land Management to produce an EIS for a transmission line around Grand Junction, Colorado, and has worked closely with the U.S. Forest Service and U.S. Bureau of Land Management on other projects in Colorado, New Mexico, Utah, Nevada, Wyoming, Montana and Washington. Also, he has extensive experience with the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and U.S. Environmental Protection Agency.

Mr. Johnson has considerable experience conducting rare plant surveys in the Rocky Mountain West. He is an authority on Harrington penstemon (*Penstemon harringtonii*), a plant of sagebrush habitat in the Dillon/Kremmling area, and discovered a new plant, now named Penland's penstemon (*Penstemon penlandii*). Additionally, he has conducted studies on numerous other Colorado threatened and endangered plants.

Mr. Johnson has considerable experience both producing the entire EIS/EA and providing the ecology section of such documents. He has extensive EIS and EA experience in the mining, electric transmission line, reservoir, energy development, and transportation industries. He has worked on approximately 30 EIS/EA over the past 26 years. Additionally, he has produced EA's for numerous U.S. Bureau of Land Management land exchanges.

Mr. Johnson has produced numerous biological assessments and biological evaluations for federal agencies. Examples of species for which biological assessments have been prepared and approved by the U.S. Fish and Wildlife Service include: Harrington penstemon, Colorado butterfly plant, Uinta Basin hookless cactus, Bell's twinpod, Mesa Verde cactus and Ute ladies' tresses orchid.

Mr. Johnson's wetlands experience includes delineation, description, functional assessments and 404 permits. Mr. Johnson also designs, creates, enhances and monitors new creations, and serves as an expert witness on wetland issues. He has designed over 100 wetlands, managed construction companies for the creation of 50 wetlands, some up to 20 acres in size and monitored the vegetation, hydrology and wildlife use of these creations for periods of time up to 5 years.



ARCADIS G&M, Inc.  
630 Plaza Drive  
Suite 200  
Highlands Ranch, CO 80129  
Tel 720.344.3500  
Fax 720.344.3535  
www.arcadis-us.com

**ENVIRONMENTAL**

Date:

10 May 2005

Contact:

Donald R. Ganser

Phone:

720-344-3774

Email:

dganser@arcadis-us.com

Our ref:

58COVILW.OLF0

Mr. Bob Honts  
President and CEO  
Managing Venturer  
The Village at Wolf Creek  
1402 San Antonio, Suite 102  
Austin, Texas 78701

Subject:

Proposal for Hydrogeological Characterization and Monitoring Program, Dewatering Evaluation, Applicable Permit Applications, Infiltration Trench Design, and Erosion Control Plan  
The Village at Wolf Creek, Mineral County, Colorado

Dear Mr. Honts;

ARCADIS G&M, Inc. (ARCADIS) is pleased to present our proposal to perform a Focused Hydrogeological Characterization Study and Groundwater Monitoring Program, Applicable Permit Applications, Infiltration Trench Design, and Erosion Control Plan for the proposed Village at Wolf Creek development. The Village at Wolf Creek is located on approximately 320 acres adjacent to the Wolf Creek Ski Area in Mineral County, 30 miles northeast of Pagosa Springs, Colorado. The site encompasses a series of wetlands in an area identified as Alberta Park.

**Project Understanding**

The objective of the work proposed herein is to characterize the hydrogeologic conditions at the location of two proposed water storage tanks at the site and the relationship of groundwater flow to the wetlands downgradient of the tanks, monitor the fluctuations in groundwater level and any

potential impacts to the wetlands, and propose and implement mitigative measures that will preserve the natural integrity of the wetlands. The work proposed herein will also include the evaluation of dewatering requirements to construct the tanks, application of permits needed for construction of the water tanks, the design of an infiltration trench to control groundwater encountered upgradient of the construction area and its transfer downgradient prior to the adjacent wetlands, and control of erosion potential during construction. The goal of the project developers is to limit any impact to wetlands.

## **Scope of Work**

### **Hydrogeologic Study and Monitoring Program**

An area in the northwest corner of the proposed development will cut into the rock to form a level area for the construction of two water tanks that will eventually also consist of a parking garage constructed above the tanks. Prior to this construction, a hydrogeologic study will be performed of the area. This study will include a site visit and research of available documents related to the geology and hydrogeology of the area. The study will also include the coordination of effort with geotechnical activities in the area by the client's approved geotechnical contractor. To adequately characterize the groundwater conditions in the area, ARCADIS recommends the installation of 6-8 shallow water table observation wells located in the area of the cut and adjacent to the wetlands downgradient of the cut. Some monitoring wells will be installed in the proposed geotechnical borings. The wells will be constructed of 1-inch or 2-inch diameter PVC casing and screen. After installation, the wells will be developed through surging and bailing techniques and subjected to in-situ hydraulic conductivity testing by the "slug" test method.

All wells will be surveyed for location and elevation and permitted with the Colorado Division of Water Resources as required.

Contour maps of groundwater elevation and depth to groundwater will be prepared in addition to hydrogeologic cross sections for this portion of the site. Hydraulic conductivity data will be calculated for each observation well and tabulated.

ARCADIS will collect groundwater level elevation data from the observation wells quarterly and bi-weekly during the months of June, July, and August to evaluate groundwater level fluctuations.

The data will be used to evaluate potential impacts to the wetlands from the proposed excavation and construction of the water storage tanks. Identified impacts will be evaluated and mitigation measures to preserve the natural groundwater flow to the wetlands will be recommended as required. For example, excavations and construction that intercept groundwater flow to the wetlands will require a system to redistribute the intercepted water back to the wetlands.

### **Evaluation of Dewatering Requirements**

ARCADIS will evaluate dewatering requirements for the construction of the tanks and future parking lot based on the information provided by the monitoring wells and hydraulic conductivity (slug) tests. Estimated groundwater inflows to the excavation will be calculated to determine if a dewatering system will be required or whether the projected inflows are small

enough such they can be controlled without a dewatering system.

A dewatering system design will be prepared if a system is deemed necessary.

#### **Applicable Permit Applications**

The proposed construction will require several state and county issued permits including a Construction Dewatering Permit and a Stormwater Management Plan. These applications will be completed by ARCADIS along with the required routine sampling and reporting to the Colorado Department of Health and Environment, Water Quality Control Division. ARCADIS will also ensure that site activities are kept in compliance with approved permits.

#### **Infiltration Trench Design**

An infiltration trench will be required to promote the movement of storm water and shallow groundwater upgradient of the construction area to its natural drainage in the adjacent wetlands downgradient. The system will allow for the prevention of any impacts to the wetlands from construction activities that intercept natural water flow. The system will be designed to adequately contain the determined surface and groundwater flow for the subject area. If treatment is required due to elevated sediments, a pretreatment structure such as an oil and grit separator will be included in the trench design.

#### **Erosion Control Plan**

An erosion control plan will be evaluated and prepared to reduce the effects of erosion on both the construction area and the downgradient wetlands. The erosion control plan will include specific steps and requirements for the construction area. The plan will also include evaluation criteria and routine maintenance of the erosion controls to ensure the continued integrity of the plan.

#### **Deliverables**

##### **1 Site Hydrogeologic Characterization Report**

- Description of site hydrogeology and observation well installation
- Contour map of groundwater elevation
- Contour map of depth to groundwater
- Hydrogeologic cross-section(s)
- Tabulated groundwater elevation data
- Observation well boring logs and completion reports
- Observation well permits
- Evaluation of dewatering requirements

##### **2 Semi-Annual Groundwater Monitoring Reports**

- Contour maps of groundwater elevation
- Contour maps of depth to groundwater
- Tabulated groundwater elevation data

Hydrographs of observation wells  
Evaluation of variations in groundwater levels.

2 Applicable Permit Applications

Completed Dewatering Permit (3 copies-2 for submittal to the state)  
Completed Stormwater Construction Permit (3 copies-2 submittal to the state)  
Routine sampling and monitoring reporting as required by approved permits

3 Infiltration Trench Design

Contour maps of groundwater elevation  
Tabulated groundwater elevation data  
Hydrographs of observation wells  
Tabulated analysis of groundwater and surface water flows  
Tabulated estimates of dewatering requirements and return infiltration rates  
Detailed figures of trench design and construction requirements

4 Erosion Control Plan

Detailed figures of erosion control measures  
Checklist of routine maintenance and upkeep of erosion control system  
Erosion Control Plan Report will be submitted to applicable state and federal authorities

**Schedule**

We estimate that the observation wells can be coordinated with the geotechnical firm, be installed and slug tested within four to six weeks of your notice to proceed in the form of a signed agreement. Our initial Hydrogeologic Characterization Report would be submitted to you within eight to ten weeks of notice to proceed.

Groundwater monitoring events will be performed quarterly (every three months) after the installation of the observation wells and reports of the quarterly monitoring will be reported semi-annually. Monitoring reports will include contour maps of groundwater elevation, depth to groundwater, tabulated data and hydrographs for all observation wells.

Applicable permits will be completed for the client's review one week prior to their required submittal to the Colorado Department of Health and Environment. Permits are required to be submitted 10 days prior to construction activities for Stormwater Management Plans and 30 days prior to dewatering activities for the Dewatering Permit.

The infiltration trench design will be completed subsequent to the submittal of the Hydrogeologic Characterization Report. The trench design will be submitted within two weeks of the completion of the Hydrogeologic report.

An Erosion Control Plan report will be submitted at the same time as the Hydrogeologic Characterization Report. Upon approval of the plan, a copy will be forwarded to the county and applicable state and federal authorities.



## ARCADIS

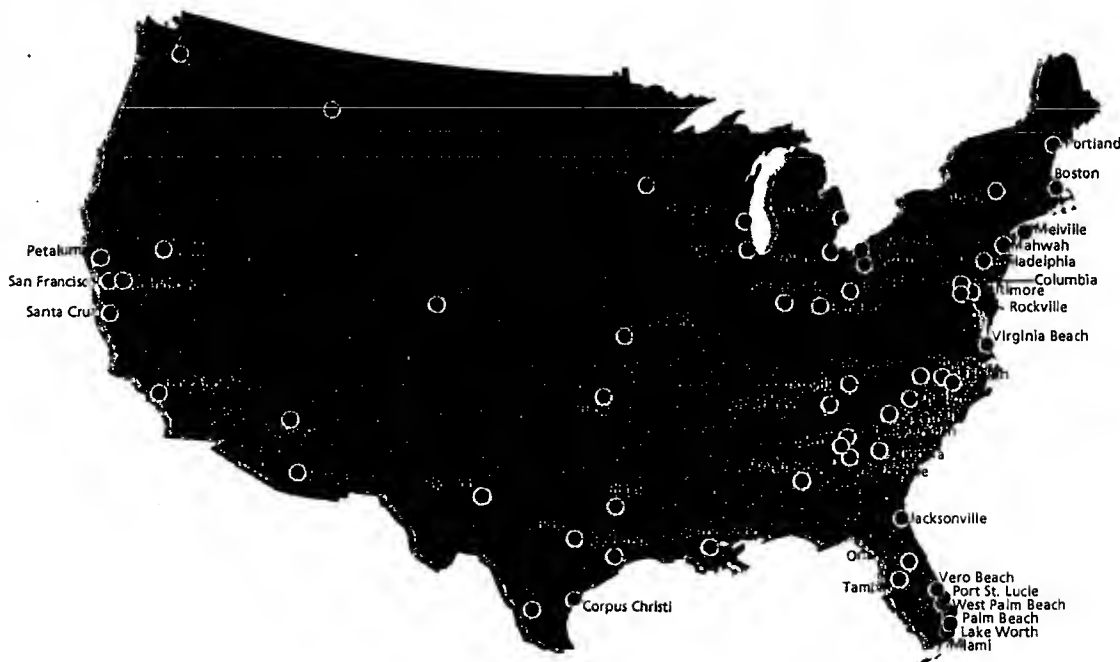
## Company Overview U.S. Operations

ARCADIS is a leader in the environmental, infrastructure, and facilities fields. The true integration of these services enables us to provide cost-effective business solutions for our clients that make sense both now and in the future.

ARCADIS is the shared brand name of our parent and sister companies around the world. Collectively, our team of 9,000 employees operates from more than 200 locations in 100 countries. ARCADIS is a promise. A promise that whatever activity we undertake, our perspective will be part of a bigger picture—we develop technologies and services to meet global needs in a socially responsible way. As ARCADIS, we are committed to enhancing the built and natural environments, creating exceptional value for our clients, shareholders, employees, and communities.

Client success is central to our total business approach—we fulfill project or program needs from concept to completion and beyond. With more than 50 offices and approximately 2,400 personnel in the United States, ARCADIS offers a proven ability to deliver a high level of service, often exceeding our client's expectations.

Ranked 9<sup>th</sup> among the U.S. hazardous waste firms, 34<sup>th</sup> among design firms, and 16<sup>th</sup> in manufacturing (ENR 2004), ARCADIS has become one of the most experienced, fully-integrated staff of scientists, engineers, architects and managers in the field. We continually strive to be objective advocates for our clients in seeking the most cost-effective and innovative solutions. We partner with you, assume your risks and deliver guaranteed solutions...solutions that are always part of a bigger picture.



Ranked #1 of  
International  
Hazardous Waste  
Firms

Ranked #36 of Top  
500 Design Firms

Ranked #28 of Top  
200 Environmental  
Firms

Ranked #6 in Site  
Assessment &  
Compliance

Ranked #8 in  
Chemical & Soil  
Remediation

Ranked #12 in  
Hazardous Waste

Ranked #9 in Clean  
Air Compliance

Project Name	Description
<b>Single-Well Tracer Tests</b> Colorado	Designed and conducted a series of single-well tracer tests and multiple slug tests to measure and characterize the spatial variation in groundwater velocity. These data provided a critical basis for the contaminant transport conceptual model, and eventual cost allocation negotiations. A distilled water tracer method was used to minimize costs and eliminate potential tracer permitting requirements.
<b>Tracer Test For Recharge Characterization</b> Colorado	Currently participating in a tracer test using deuterium and sulfur hexafluoride (SF <sub>6</sub> ) to characterize recharge and infiltration behavior for a conjunctive use aquifer-stream management strategy. These data will be used to evaluate the current flow model (MODFLOW) that is used as a basis for pumping schedules.
<b>Passive Diffusion Samplers for Groundwater Monitoring at a Heterogeneous Site</b> Colorado	Designed and conducted pilot study to evaluate application of passive diffusion samplers for groundwater monitoring at a heterogeneous site. Developed a numerical solution to evaluate sampler "lag time" and used PD sampler data in tandem with conventional sampling methods to identify high contaminant flux zones.
<b>Landfill Investigation</b> Colorado	Conducted environmental and hydrologic assessment for a future right-of-way adjacent to an abandoned landfill. Investigation work included hydrogeologic characterization, soil gas assessment (explosivity and toxic gases), and off-site migration of volatile and semivolatile chlorinated organic compounds.
<b>Investigation of a Supply Well and a State Park Wetlands</b> Colorado	Conducted rapid subsurface characterization and remediation of petroleum contamination associated with a former natural gas production well. Investigation techniques included field analysis of soil and water samples with a portable gas chromatograph. A receptor investigation was conducted to evaluate potential risks to a nearby domestic well and a State Park wetland.
<b>Hydrocarbon Contamination</b> Colorado	Managed site investigation and remediation activities for six natural gas plants and compressor stations. Work included hydrogeologic assessment, soil and groundwater quality characterization, NAPL delineation and remediation, and natural attenuation assessment and modeling.
<b>Aquifer Testing and Hydrologic Modeling</b> Oregon	Conducted aquifer testing in a complex fractured basalt-interbed aquifer to characterize hydrogeologic conditions. A numerical model was constructed with MODFLOW to evaluate the conceptual hydrostratigraphic model (see Divine and Rask, 2002). These aquifer parameter data were then used to develop an analytical groundwater flow model (constructed in Mathcad™) to determine the capture zone and assess observed contaminant concentrations associated with a shallow interceptor trench located adjacent to an unlined landfill.
<b>Industrial Facility Expansion</b> Georgia	Wetlands delineation was performed to assess impact of proposed construction activity of industrial facility expansion onto adjacent floodplains; permit application preparation; mitigation of impacted wetlands will be offset by removal of an on-site (artificially created) pond and restoration of the original hardwood bottom land forest condition; and develop and evaluate mitigation plans. Mitigation included design, installation, observation, and a 5-year monitoring program.
<b>Golf Course and Driving Range</b> Georgia	Wetlands delineation including location maps, soils maps, and topographic delineation maps for Corps of Engineer verification. The project will create a variety of innovative design alternatives, which will incorporate wetland habitats into the design.
<b>Frlar Branch Property</b> Tennessee	Wetland delineation and assessment for a 250-acre office business park was performed to determine development feasibility. Wetlands were field delineated and evaluated for function and values. Wetland assessment included identification of potential mitigation and impact assessment.

## ARCADIS

**Don Ganser, P.G.**  
Senior Hydrogeologist

Mr. Ganser has over 30 years of experience in environmental and geotechnical consulting. He has marketed, managed, and/or performed geotechnical, ground-water and environmental geological studies for industrial facilities, dams, mines, power plants, railroads, airports, ski areas and a variety of hazardous waste sites throughout the continental United States and Caribbean. Mr. Ganser has successfully managed technical groups as large as fifty personnel with annual labor revenue of over five million dollars both administratively and technically. His environmental experience includes remedial investigations, feasibility studies, remedial design and implementation for industry and government, in addition to, permitting, regulatory compliance and consultation to potentially responsible parties concerning Superfund sites throughout the United States. Mr. Ganser's hydrogeologic experience includes water resource and impact evaluations in Colorado, New Mexico, Wyoming, Florida, New York, and New Jersey. Expertise ranges from initial evaluation of ground-water resource potential through investigation and final production well design.

### Environmental

#### Hydrogeologic Characterization and Computer Modeling Studies, Peaks 7 and 8 Base Area Development

Vall Resorts Development Company,  
Breckenridge, CO  
Project Manager for extensive hydrogeologic investigations and modeling studies to evaluate potential impacts on sensitive wetlands from planned development at the Breckenridge Ski Area. Mitigation of impacts to the wetlands from construction dewatering and post-construction drainage of subsurface structures included the location and design of systems to re-route groundwater for the purpose of maintaining wetland integrity. The results of the investigation and modeling were an integral component of the planning and approval process which included the City, County, US EPA and US Army Corps of Engineers. The client was able to construct the

development using the design considerations verified by the flow model.

#### Hydrogeologic Investigation

Snowmass Village Development,  
Snowmass, CO  
Directed hydrogeologic investigations including in-situ hydraulic conductivity testing of groundwater monitoring wells to evaluate the groundwater inflow quantity from excavations associated with the planned construction of lodges at condominiums at a large Colorado ski resort.

#### Hydrogeologic Investigation

Aspen Public Parking Garage, Aspen, CO  
Performed investigations including the installation of test wells, aquifer testing and data analysis using AQTESOLV to evaluate groundwater inflows to the excavation. Directed design studies for underdrain system to intercept groundwater flows post-construction. The client benefited from a rapid

#### Education

BS, Geology, University of Illinois, 1971

Graduate Studies in  
Hydrogeology, Colorado  
School of Mines

#### Professional Registrations

Professional Geologist in State  
of Wyoming

#### Professional Associations

Association of Engineering  
Geologists

Colorado Groundwater  
Association

Colorado Hazardous Waste  
Management Society